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1840

AN
ESSAY
ON THE SUBJECT
OF THE
YELLOW FEVER,
INTENDED TO PROVE
ITS
TRANSMISSIBILITY.

✓
BY B. B. STROBEL, M. D.

(Late Physician of the Charleston Marine Hospital.)

"Audi alteram partem."

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TO DR. B. B. SIMONS.

I CONSIDER it an honor, that I am permitted to offer this evidence of my respect, to an individual who has not only been so highly distinguished for his professional attainments, but who has also exerted a powerful influence in the promotion of professional courtesy, and the elevation of the character of the Medical profession. You will, therefore, accept this as a humble, but sincere testimonial of my gratitude and esteem.

B. B. STROBEL, M. D.

PREFACE.

I enter upon the task which I have assumed with considerable diffidence, the more especially when the weight of authority arrayed against me is taken into consideration, and the multiplied interests of commerce, which are involved in the decision of the question of the transmissibility of the Yellow Fever, from one port to another. For it will be perceived, that if the disease does not possess this property, it would be idle and useless, to shackle and embarrass the freedom of trade, by quarantine regulations. If on the other hand, it be capable of transmission, then does it become the solemn duty of all governments, to stay the progress of the evil, by the enforcement of the most rigid quarantine.

The subject has been one of long and serious reflection, and its importance has been fully weighed. Not only so—but I have at some considerable sacrifice of time and personal convenience, endeavored to collect all the facts likely to throw light upon it.—Nor have these investigations been of a one-sided character. The object was not to sustain any favorite theory; for up to the time of the occurrence of the Yellow Fever of 1839, I did not believe the disease to be either contagious or infectious. But when a flood of light and testimony was poured in upon me, such as I could not resist without closing my eyes, and becoming voluntarily blind, I had no alternative left but to sit down in darkness, or opening my mind to the conviction of truth, offer to others the reasons upon which my conclusions were formed. Having endeavored to banish from my mind every selfish consideration, having no political or personal ends to gain.—I seek the influence of no party, nor do I aim at the detriment of individuals. I intend to use no weapons, but those furnished me from the armory of Truth. Influenced by a solemn conviction of duty, I have determined to perform that duty fearlessly, and leave the result to God.

THE AUTHOR.

ESSAY.

ANY one who consults the authors, who have written on the subject of YELLOW FEVER, will be forcibly struck with the discrepancy of opinion which prevails, as to the causes of the disease. One class of writers contends that it is propagated by contagion, another by infection, whilst a third will admit it to be neither infectious, nor contagious, but attribute its occurrence to certain general or local causes, which may embrace every thing, or nothing. May we not conclude that all of these persons are honest in their convictions, but that they have seen the disease modified by circumstances which have completely changed its character, in this respect? By taking into consideration those modifying circumstances, can we not reconcile these discrepancies, without imputing dishonesty to any? No two men see the same object in the same light, and we are all liable to be warped and biased by our interest and prejudices; and this is undoubtedly, the most serious obstacle to be encountered in the discussion of this question. It is the object and interest of all commercial communities, to establish, if possible, the non-contagious character of all diseases; and for the very plain reason, that the restrictions necessary to prevent the extension of such diseases, are calculated to interrupt free intercourse between commercial cities. Hence while we find the French Academy awarding Mr. CHERVIN a premium of 10,000 Francs for an Essay on the non-contagious character of the disease, which is supposed to have

settled the question—Dr. BAHI, in consequence of his having expressed the opinion that the fever at Barcelona in 1821 was contagious, was compelled to fly for his life from the City, whilst his house was violently assaulted, and his windows broken. “They execrated and threatened with death, those Physicians sufficiently well informed to recognize this character of the disease; they called them, by way of derision and insult, the *authors of Yellow Fever*.* Was it not the operation of the same principle of policy, which induced Dr. BENJAMIN RUSH to forego the opinion which he promulgated as to contagion in 1793, and after the year 1802 to advocate the opposite theory? Indeed we are not left entirely to conjecture on this point, for the *Dictionnaire des Sciences Medicales* contains the following remark.† “RUSH thought the disease at first was contagious. He sustained from 1802 a contrary opinion. But this Physician declared in dying, that in so doing, he had yielded to *particular considerations*, and that he never ceased to believe that the Yellow Fever was contagious. He disavowed in his last moments, all that he had written in favor of non-contagion.”—This statement derives confirmation from Dr. HOSACK, who says‡ “Dr. RUSH, had he lived, would, I verily believe, have returned to his former faith in the contagiousness of Yellow Fever, as he had done with religion. At one period he varied his religious creed several times. He was a Quaker, Anabaptist, Presbyterian and Churchman, alledging, that change was the

*Histoire Medicale de la Fievre Jaune, by FRANCOIS, PARISSETT, BALLY.

†Article Fievre Jaune.

‡HOSACK'S Lectures, p. 224.

characteristic of the human mind, and that God alone was immutable. So in Medicine, during one of my visits to him in the last years of his life, I submitted to him my views of the qualified contagiousness of Yellow Fever. When he returned it to me, he observed—“Doctor, you and I can now shake hands, and unite nearly in the same doctrine,” or words to that effect.

Truth and justice have been too often sacrificed to expedience and policy, and never more so than in reference to the Yellow Fever. Has it not occurred, when the disease had actually invaded us, that there were men who regardless of the lives of others, and listening only to the sordid suggestions of avarice, have endeavored to conceal the fact? We can speak feelingly on this subject, from our own sad experience during the year 1839. Occupying, as we then did, a public station, it became our duty to make the first announcement of the Fever; and what was our reward for faithfully performing that duty? For more than a month, we absolutely lived in an atmosphere of “*curses deep, tho’ not loud,*”—and it was not until the disease had become widely diffused, that the community began to appreciate our motives. These are questions that involve the interest and lives of others, and which we have no right to jeopardize! Dare we place the life-blood of our fellow men in one scale, and coldly calculate how many pounds, shillings and pence in the other shall preponderate? Let others consult their motives of policy if they will, but let us determine to pursue the conscientious path of duty, and though it may be strewed with thorns and brambles, we may rest assured that we shall not go unrewarded, if not with the wealth of the world, and the applause of men, at least

in the approbation of our own conscience, a reward, of which neither fate, nor fortune can deprive us. We claim for ourselves no peculiar powers of observation, nor do we pretend to more disinterestedness of purpose than our neighbors. If we err, and can be convinced of that error, we will be happy to acknowledge it.— But until that conviction takes place, we will not be seduced from our duty by the smiles of patronage, nor driven from our course by the frowns of power.

How stands the question then, and how is it to be decided? It can only be determined by the accumulation of facts and evidence. Before we proceed, however, to the consideration of those facts and that evidence, let us first state what we expect to prove.

We will premise that much confusion has arisen, in consequence of the various definitions given to the words Contagion and Infection. Without pretending to solve those nice distinctions, which are calculated to confound, without enlightening the public mind,— we shall make use of the word transmissibility, as embracing both modes of propagation, whether by infection or contagion. Now what we mean by the transmissibility of the Yellow Fever, is this—that if the atmosphere of Charleston, (or any other city) be in such a condition, as to predispose to *some form* of febrile disease, and then, and under such circumstances, vessels arriving from Havana or Matanzas where the disease is prevailing at the time, bringing in their holds a quantity of fruit, *together with the epidemic atmosphere* of those places; on this atmosphere and vegetable effluvia being discharged among the shipping in harbor, whose crews are pre-disposed to take the disease; *our* atmosphere may become so infected, as to generate that particular

form of fever. Should the same vessels, however, enter a perfectly healthy atmosphere, the poison finding no appropriate medium for its extension, will become dissipated and harmless. Upon the same principle, if a lighted candle be immersed in a jar, containing a gas which is a non-supporter of combustion, it will be immediately extinguished—but if the same candle be placed in a jar of oxygen, it will burn with increased brilliancy. If the atmosphere be composed of combustible materials, a single spark will light it into a blaze; and we hope by the facts hereafter adduced, to make these positions evident.

Let it not be supposed, however, that we contend for the *exclusive* importation of Yellow Fever. We believe on the contrary, that it may, and does arise sometimes from local causes, under certain conditions of the atmosphere.

The Yellow Fever is emphatically the disease of strangers in warm climates. In the West Indies it is endemic, it resides there and is rarely, if ever absent; the seasons of the year have but little influence in eradicating it—it is, however most fatal from the months of May to August. In the more temperate latitudes it is a disease of occasional occurrence, and not in the strict sense of the term endemic.

It can be shown that the City of Charleston enjoyed an exemption from its attacks for a period of 37 years at one time, and of 25 at another, and it may be remarked that it seems to keep pace with our commerce, more especially, with that of the West Indies, and to follow in its wake. We must therefore expect that the disease should present itself under different aspects in different regions, and in our climate it

may arise either from local causes or importation, and in the entertainment of this opinion we are not singular. It is stated of Professor DESGENETTES, who has been much engaged with Yellow Fever, and who has collected, and possesses the most extensive observations on the subject, that he thinks, so far as Spain, and Portugal are concerned, the double doctrine of local origin, and importation may be sustained. He founds this opinion on the fact, that several good observers, have described the Yellow Fever as arising and being developed in the midst of the peninsula, particularly in the fifteenth and sixteenth centuries, without any previous communication with infected countries. The doctrine of importation, on the other hand, more especially in latter days, is found to be as clearly demonstrated, as a thing of that nature can well be. This point being established, as to the contagious nature of Yellow Fever, it remains to determine, and this is no easy task, the conditions necessary to its propagation.

As we are prepared to admit that the disease may and does sometimes arise from local causes, it would be a waste of time to enter into evidence, to prove that which seems to be acknowledged by all. Our remarks will therefore be more particularly confined to its *transmissibility* from one place to another, including of course, under this head, contagion and infection. We take the liberty, therefore, of presenting the following facts, collected from different sources.

"About the year 1690, the disease was said to have been brought to the West Indies. M. MOREAU DE ST. MERY, an historian full of candour, and who bases his opinions on the best authorities, relates in his Topographical and Physical Description, &c. of the Island

of St. Domingo* this importation, in a manner that leaves no doubt as to the nature of the disease, which was nothing more than the Yellow Fever endemic to the Antilles. A bloody revolution took place in the Empire of Siam; the French established in that kingdom, embarked under the command of M. DEFORGES, a General Officer. They steered for France, but by stress of weather, were forced to go into Martinique. The writer whom we have quoted says nothing of their touching at Brazil, as is asserted by the historians cited by M. BALLY. It was in the month of December, 1690, and not '82, as say the authorities of M. BALLY, that the French established at Siam, fled to Fort Royal, transported by the ship *Oriflamme*, and two ships of the India Company, called the *Loure* and the *Saint Nicholas*. These vessels says M. MOREAU DE ST. MERY, brought with them the purple fever, and a pestilential fever, the ravages of which were so cruel that before the 1st of January, 1691, M. DE LESTRILLES, the commander of the *Oriflamme*, and more than one hundred persons, either newly arrived, or inhabitants of the Island were among the number of dead. The inhabitants of Fort Royal fled, alarmed at this rapid destruction, which was still further increased by the infection of twenty-five barrels of beef thrown into the sea, from these vessels at their anchorage. It became necessary to encamp the few remaining soldiers who came from Siam, and still survived, at a remote place."

"At the sametime two vessels from Pondicherry, and the ship *Mignon*, came into the harbor, the contagion

*Volume 1, page 700.

spread among their crews, the half of whom were mowed down in June, 1691.

“M. DUCASSE arrived from Europe, on the 8th May, of the same year, commanding three Ships of War. His crews very soon became a prey to the disease, which ravaged the whole Island. This officer started with his squadron, for the Island of St. Croix, to bring provisions to the Island of St. Christophe, for the refugees from St. Domingo, of the 2nd to the 7th of August. Mr. DUCASSE lost forty men, and left at St. Croix the germ of the disease. He arrived at Port au Paix on the 12th, with his three vessels, and the inhabitants of St. Christophe who had retired into this village, received with the provisions brought them by the squadron, this frightful disease, which completed the misfortunes which they had already suffered. More than half of these unfortunate people perished.”

The same author relates, “Soon after the siege of Martinique, which surrendered to the English in the year 1762, the troops were encamped above Morne Garnier, which has since been designated Fort Bourbon; those who were at Fort Royal were attacked with the Yellow Fever, to which that name had not yet been given. Several Soldiers died every day, and I have seen five buried in the same ditch, at the fall of Morne Garnier, in the cane fields at the residence of GRARD. The mortality was so great among them, that the bells were no longer sounded, and public ceremonies of burial were no longer performed. The patients all became yellow. This symptom was particularly noticed in Mr. QUENNEDY, an English Officer, who led to the siege, several Iroquois brought from Canada, whose strange and menacing aspect created great

alarin. The disease was considered contagious, and bore the names of Mal de Siam, and putrid malignant fever."

"Physicians enjoying well deserved reputation, such as CHISOLM, WRIGHT, LINING, CURRIE, MACKITTRICK, PUGNET, AREJULA, PALLONI, CAILLIOT, THIEBAUT, BALLY, HOSSACK, etc. assert that the Yellow Fever is contagious. Other Physicians of no less respectable authority sustain the opposite opinion, DEVEZE, VALENTINE, MILLER, DALMAS, SMITH, SAVARESI, CHERVIN, ROCHOUX, etc., whilst GILBERT, CLARK, HUMBOLDT, and several others, have thought that it is contagious only in certain conditions of weather and temperature. According to ULLOA, (*Relacion Historica, del viaje a la America Meridional, etc.*) the Gallions of the South Sea having left Panama in 1740, to convey and put the treasures in safety at Guyaquil, carried into that Colony the Yellow Fever, which committed great ravages. But scarcely any died except sailors and strangers, and the people of the country were generally exempt. In the year 1741, some strangers brought it to Malaga by introducing merchandize, (*Villalba Epidemiologia de Espana, etc.*) LIND (*Essay on the diseases of Europeans in warm climates*) reports, that a trunk containing the clothes of a young man, who died of Yellow Fever at Barbadoes, being opened at Philadelphia, all the persons present contracted the disease, which was afterwards propagated to the rest of the city. The same author speaks of that which reigned at Cadiz in 1764, and which had been brought by a vessel coming from America. The disease commenced in a tavern where the sailors lodged, and extended itself to the neighboring houses, occupied by indigent persons. That which

manifested itself on the continent of America in 1793, was carried by the French Colonists, who emigrated from the Antilles to escape a general massacre.”—BALLY.

“The Corvette Delfin, which transported the Intendant of Havana to Cadiz, introduced the disease to this last city. The persons who communicated with the vessel, were the first attacked. A large number of the inhabitants who fled to the surrounding cities, carried the contagion with them. Whole families remaining at Cadiz, succeeded in guarding themselves against it, by interdicting all contact with other persons. (*Arejula Breve descripcion de la fiebre Amarilla.*) In 1802 a new epidemic ravaged Philadelphia, after the arrival of a Packet coming from the Cape—BALLY. AREJULA observed at Malaga, in 1803, that Monday was the day of the week on which the greatest number of persons became sick, in consequence of the assemblages which took place on Sunday in the Churches.”

“The Yellow Fever reigned at Antequerra, in 1804. After a solemn procession, made with the intention of arresting the plague, the mortality was more than doubled.”

M. THIEBAUT DE BERNARD, a learned Bibliographer, who was at Livourgne, in 1804, whilst the Yellow Fever desolated that city, and who, on that occasion, addressed a very interesting letter to M. the Professor DESGENETTES, does not doubt, that the disease was imported. We will extract from the letter of Mr. THIEBAUT the most important details relative to this importation.

On the 18th August 1804, the Spanish ship Anna Maria, commanded by Captain SALVADORE LIAMOISI

arrived in the Port of Livourgne; this vessel came from Havana—during the voyage she had lost nearly the whole of her crew, of Yellow Fever. Arrived at Cadiz, the entrance of the Port was refused her; nevertheless, they gave her a new crew, and by another favor still more criminal, delivered her a Bill of Health, as if she had really sailed from Cadiz. She passed the Straits of Gibraltar on the 10th of July, touched at Alicant where she took in cargo, and departed from that port on the 9th of August to proceed to Livourgne.

We must not here neglect to state the manner in which the Spanish captain succeeded in deceiving the vigilance of the authorities, and of entering the port of Livourgne, as if he had not had any epidemic disease on board. But a few days after he cast anchor, two sick men left the vessel, and went to lodge at an Inn, where they died in three days. In a short time there perished twelve lodgers at this Inn, which soon became a nucleus of contagion. A Neapolitan who lodged at this inn, left it to avoid the disease, but six days after leaving, he was seized with the Yellow Fever, and died.

A Baker of Livourgne had sold biscuit to the Spanish vessel, which was carried on board in sacks, which remained there for two days. Returned to their proprietors these sacks were used as beds of repose, by the workmen of the Baker. All died, and were followed by the Baker and his wife, the infection having extended to the whole house.

A French Butcher, who lodged in the inn, of which we have already spoken, died of Yellow Fever. It was not long before his wife followed him. The mis-

tress of the house, and a French Officer, who visited these two persons during their illness, did not survive them but four days.

The Guard of Health placed on board the Anna Maria, during the twelve days which she was quarantined, nearly all the caulkers who were engaged in repairing her, as well as, several persons inhabiting the few houses situated on the mole of the port, were attacked with Yellow Fever, and died of it.

The vessel was laden with Sugar, Dye-wood, Sarsaparilla, Hides, etc. This merchandize was landed and placed in two stores in different streets. The disease committed remarkable ravages in these streets,—two porters employed in transporting this merchandize died in from four to seven days after.”

Such are the principal data, upon which M. THIEBAUT relies, to establish the fact that the Yellow Fever of Livourgne was contagious. The reading of his memoir is instructive,—it proves that the author is a clear and judicious observer.

“M. MOREAU DE ST. MERY who lived during thirty years in the midst of the most fatal epidemics of Yellow Fever, at Martinique, St. Domingo and Philadelphia, has had frequent proofs that the Yellow Fever was contagious—but he adds that this sad property is not observed in all epidemics.”

“M. MOREAU DE JONNES whose opinion on the Yellow Fever, as we have already said, is of the greatest weight, is convinced that the disease is sometimes contagious, but he has seen epidemics in which it did not communicate itself. In the memorable eruption of 1802 and 1803, which ravaged the Antilles and several portions of the U. States, the disease was certainly con-

tagious. Of thirty-two persons attached to the Staff of the Army of Martinique, thirty one died, M. MOREAU alone survived. At this period the officers of Health were nearly all affected by the contagion and perished. The mortality was so great that in order not to encrease the terror that reigned at Fort Royal among the people, the Governor suspended all the ceremonies performed at funerals. Honors were no longer awarded to the deceased Military."

Here is a very conclusive fact in favor of the contagious nature of Yellow Fever. It is M. MOREAU DE JONNES who has communicated it to us.

"In 1808 the French brig *Palinure* came to anchor in the harbor of Fort Royal, Martinique.—The Yellow Fever soon spread to the crew and the mortality on board the vessel became considerable. The Governor hoping that the disease would diminish in the open sea, ordered this vessel to undertake a cruise. The order was executed, but soon the English brig *Carnation*, coming from Europe, and not having touched at any port, nor having any sick on board, found herself in the same waters as the *Palinure*. The two vessels engaged. The French Captain gave orders to board and the English brig was captured.—The greater part of the men composing her crew, were transported on board the *Palinure*, and a large number were attacked with Yellow Fever, Undoubtedly the disease was communicated by contagion; and this alone can explain the eruption of Fever taking place among English Seamen, coming from *Europe*, and having had no communication with any American land, until the rencontre with the *Palinure*, and could

not be suspected of having brought the germs of the disease with them.”*

The following remarks are extracted from a letter to RUFUS KING, Esq. Minister Plenipotentiary from the U. States of America to the Court of London, by Sir GILBERT BLANE.

“The first question that occurs with a view to preventive measure is, whether the disease be infectious, and under what circumstances it is so.

In those situations in which I observed it in the West Indies, it was evidently so. There was the most incontestible evidence of this, both on board of Ships, and at Hospitals, and the doubts which have been stated on this point, seem to have arisen from infection being blended with other causes, which must concur with it in order to give it effect.

But whatever doubts there may be on this subject in the West Indies, there can be none in the climate of North America. This will be proved and illustrated by an example.

On the 16th of May 1795, the Thetis and Hussar Frigates captured two French armed Ships from Guadeloupe on the coast of America. One of these had the Yellow Fever on board, and out of fourteen men sent from the Hussar to take care of her, nine died of this fever before she reached Halifax on the 28th of the month and the five others were sent to the Hospital sick of the same distemper. Part of the prisoners were removed on board of the Hussar, and though care was taken to select those seemingly in perfect

*Most of the preceeding extracts will be found in the Dictionnaire des Sciences Medicales under the article *Fievre Jaune*.

health, the disease spread rapidly in that Ship, so that nearly one third of the whole crew was more or less affected by it.

This fact carries a conviction of the reality of infection, as irresistible as volumes of argument, and it further affords matter of important, and instructive information by proving that infection may be conveyed by the persons or clothes of men in health.

It is a question of still more consequence with a view to preventive measures, whether this epidemic has arisen in the towns of North America from internal causes, or whether it was imported from the West Indies.

In order to decide this it will be necessary to go back to the origin of the disease, in so far as it can be ascertained.

After laying together and considering fully all the facts relating to the subject, it appears to me that the Yellow Fever can not be produced, but in a season or climate in which the heat of the season is pretty uniformly, for a *length of time*, above the 80th degree of Farenheit's Thermometer; that under the influence of this heat, Europeans newly arrived, and more especially in circumstances of intemperance, or fatigue in the sun, may be subject to it in many instances, but that it has usually become general only by the previous influence of infection which produces the jail, Hospital or Ship Fever, or from the influence of putrid exhalations; and that when so produced it continues itself by infection. It would be too tedious to enumerate the multiplied proofs of this, which have occurred to me in my connexion with the public service. With regard to the effect of Ship infection, it is enough to

say that the Seamen of Ships of War from England having infectious fevers on board, were observed to be the most subject to the Yellow Fever when they arrived in the West Indies, and that the troops which have been conveyed in ill aired, crowded and sickly transports, are the most liable to it after disembarking, this applies even to that part of them who have arrived in health. And with regard to the effect of putrid exhalations, I need only mention, that at the time of the battle of the 12th of April, 1782, there was not a sickly ship in our fleet, but many of those officers and men who were sent to take charge of the French prizes, were seized with the Yellow Fever and it was observed, that when at any time the holds of these ships, which were full of putrid matter were stirred, there was an evident increase of the fevers soon after.

The circumstances under which it appears in North America are, indeed totally different from those in which it appears in the West Indies. This fever had not prevailed in Philadelphia from 1672 till 1793; whereas it occurs, more or less, every year in the West Indies, and its prevalence is in proportion to the new-comers from Europe. If this disease were the spontaneous production of America, how comes it that it did not destroy the British armies which acted in the late war in Pennsylvania, Virginia, and Carolina as it has done of late in the West Indies? It is also against the laws of probability, that this fever should have arisen by mere accident in that year in which a number of French emigrants had arrived from the islands in which it prevailed there to such an unexampled degree."

The introduction of the Yellow Fever from Boul-

lam to the West Indies is related by Dr. CHISOLM and we take the liberty of making the following extract from that author.*

“The following account I was favored with by a gentleman,† who was one of the adventurers in the Boullam Scheme, and who despairing of success, left the Coast of Africa in this ship.”

“The Hankney sailed from England, in company with another ship, both chartered by the Sierra Leone company, loaded with stores and adventurers for the projected colony at Boullam, about the beginning of the month of April, 1792. When these ships sailed, and during the voyage out, the crews and settlers were perfectly healthy; and as the latter were generally of the middling class of people, and appeared to be induced to settle in this new country, more from the delusive prospect of wealth held out to them, and the fanatic enthusiasm for the Abolition of the Slave Trade of the moment, than by any deprivation of the means of subsistence in their own country, no suspicion whatever can be entertained of the existence of latent infection among them, nor can marsh effluvia be supposed as the origin of the disease which afterwards swept off so many of these unhappy people. Boullam being surrounded by the sea, enjoys all the advantages of the sea breeze; and being dry and not incommoded by any marshy tracts, it is considered as the healthiest spot on the windward coast. It is not inhabited, but occasionally visited by the natives of the adjoining

*An Essay on the Malignant Pestilential Fever introduced into the West Indies from Boullam, on the Coast of Guinca, as it appeared in 1793 and 1794, by C. CHISOLM, M. D. page 83 to 99.

†Mr. J. PAIBA.

continent, who have small scattered patches of millet on it. It is, however, destitute of fresh water; and that procured by digging temporary wells on the beach, is brackish, and consequently unwholesome.—The negroes of this part of Africa are ferocious in an extraordinary degree: and are even said to be cannibals. This circumstance preventing the erection of any sort of accommodation on shore, during the nine months the *Hankey* lay there, the settlers were obliged to live on board: and the rainy season coming on almost immediately after their arrival, and the heat being at the same time excessively great, they endeavoured to shelter themselves from both, by raising the sides of the ships several feet, and covering her with a wooden roof.

Among upwards of two hundred people, of whom women and children constituted a part, thus confined in a sultry, moist atmosphere, cleanliness could not be well attended to, however well-inclined the people themselves might be. These circumstances, joined to the depression of mind consequent upon this disappointment, must certainly be considered as the causes of the malignant fever which broke out among those unfortunate people, sometime after their arrival at *Boullam*. And no doubt can be entertained, that neglecting to sweeten the ships, to ventilate her afterwards, and to destroy the clothes, bedding, &c. of those who died on board, was the sole cause of her retaining the seeds of infection when she arrived at this port. The following facts will serve to illustrate this: *Capt. Coxe*, finding the water at *Boullam* unwholesome, proceeded with his ship to *Bissao*, where there is a Portuguese settlement, for a supply. The

ship was navigated by about twelve seamen, most of whom had not experienced sickness, and had been probably procured from Sierra Leone: at any rate they were then taken on board for the first time. Of these, before the return of the Hankey to Boullam, nine died; and the remainder, with the captain, were reduced to a deplorable state. The time for which the Hankey was chartered being expired, Mr. PAIBA with his family, intended to return to England in her; but as no seamen could be procured, they were obliged to proceed to sea, having on board the captain sick, and only the mate, Mr. PAIBA, and two seamen to navigate the ship. With much difficulty they arrived at St. Jago, where they fortunately found the Charon and Scorpion ships of war. Capt. DODD, of the former, humanely rendered them every service in his power; and on leaving them, put two men of each ship on board the Hankey. With this aid they proceeded to the West Indies; a voyage to England being impracticable in their wretched state. On the third day after leaving St. Jago, the men they procured from the ships of war were seized with the fever, which had carried off three-fourths of those on board the Hankey at Boullam; and having no assistance, two of the four died: the remaining two were put on shore here in the most wretched state possible. Capt. DODD on his arrival at Barbadoes from the coast of Africa, was ordered by Admiral GARDENER to convoy the homeward bound fleet of merchantmen. In the execution of his orders, he came to Grenada on the 27th of May, and hearing of the mischief which the Hankey had been the cause of, mentioned that several of the Charon's and Scorpion's people were sent on board the

Hankey at St. Jago, to repair her rigging, &c. that from this circumstance, and the communication which his barge's crew had with that ship, the pestilence was brought on board both ships; and that of the Charon's crew thirty died; and of the Scorpion's about fifteen. The Hankey arrived at the Port of St. George on the 19th of February, in the most distressed situation; and for a few days lay in the Bay, but was afterwards brought into the Carenage.*

From this period are we to date the commencement of a disease before, I believe, unknown in this country, and certainly unequalled in its destructive nature.

—Nova pestis adest . cui nec virtute resisti,
Nec telis, armisve potest ————— OVID.

The manner in which this disease was first communicated, and its subsequent progress, too clearly

*Our Lieut. Governor, NINIAN HOME, Esq. sometime after the disease became epidemic, informed me, that in consequence of the information he had received of the clothes, &c. of the victims of the fever at Boullam being still on board the Hankey, he ordered Capt. COXE to be brought before him and some gentlemen of the council, &c. He then acknowledged that all the effects of those who had died were then on board his ship; and said, that he would not destroy them, unless he was indemnified for the loss he might sustain, should the heirs of the deceased call on him for those effects. Every argument was used to induce him to destroy the articles, but the only one which influences a man of this description, Indemification; and he of course carried the seminum of the disease to England when the Hankey sailed with a convoy in July.—Mr. HUME was so impressed with the idea of the danger which Capt. COXE's conduct might be productive of on the arrival of the ship in England, that he wrote to the Secretary of State, stating the danger. Proper notice of this representation was taken by Government; for the Hankey, I understand, was obliged to perform quarantine.

evinced its malignant and pestilential nature. A Capt. REMINGTON, an intimate acquaintance of Capt. COXE'S, was the first person who visited the Hankey, after her arrival in St. George's Bay. This person went on board of her in the evening after she anchored, and remained three days; at the end of which time he left St. George's, and proceeded in a Drogher* to Greenville Bay, where his ship, the Adventure, lay. He was seized with the malignant pestilential fever on the passage; and the violence of the symptoms increased so rapidly, as, on the third day, to put an end to his existence. —The crew of the Defiance of Blythe port, near Newcastle, were the next who suffered by visiting this ship: the mate, boatswain, and four sailors went on board the day after her arrival: the mate remained either on deck or in the cabin, but the rest went below, and staid all night there. All of them were immediately seized with the fever, and died in three days. The mate was also taken ill, but, probably from his having been less exposed to the virulence of the infection, he recovered.

The crew of the ship Baillies, from the same imprudent civility or curiosity, were the next who suffered. These communicated the infection to the ships nearest them; and it gradually spread from those nearest the mouth of the Carenage, where the Hankey for some time lay, to those at the bottom of it; not one escaping, in succession, whatever means the captains took to prevent it; even the smell and smoke of coal-tar, which is uncommonly pungent and penetrating, had no effect as a preventive; for the Hope of London, then careening,

*A coasting vessel.

and having her bottom paid with this bitumen, received the infection as extensively as the others, although none of the crew died of it. In the short space of time from the beginning of March to the end of May, 200 of about 500 sailors, who manned the ships in the regular trade, died of this fever. If to these we add, those who suffered on board Guinea-ships, and other transient vessels, the number cannot fall short of 250; which is nearly one in three, or a third of all the sailors during about ten weeks in harbour. From the beginning of June to the middle of August, when the disease had nearly disappeared, the number of sailors was considerably diminished, by two fleets having sailed for Europe, but the mortality was proportionably great. Although so great a mortality naturally leads us to form a dreadful idea of the virulence of the contagion which gave rise to it, it must not remain unconsidered, that the predisposition of the class of men among whom it happened, was very great. The sailors were men from the age of fifteen to fifty; and the circumstances which appeared to predispose them more strongly than other men to the action of the contagion, were violent exercise in the sun; the immoderate use of undiluted new rum; bathing in a state of intoxication, and often when violently heated; sleeping on deck during the night. Other circumstances which did not depend so much on their own prudence, no doubt, contributed very much to give the disease so very fatal a tendency: the damp heat between decks; the excessive filth of most of the ships; and the uncleanly state of the persons and clothes of the men themselves.

About the middle of April the disease began to appear on shore. The first house it shewed itself in, was

that of Messrs. Stowewood & Co. situated close to the wharf; and the infection was evidently introduced by a negro-wench, who took in sailor's clothes to wash. The whole of the family were successively afflicted with it; and by them communicated to all those with whom they had any intercourse. The difference of temperature, and free circulation of air: the temperament of the inhabitants, in general, less disposing them to be acted on by the contagion; the superior care and attention to cleanliness, rendered the fever infinitely milder when it appeared among the inhabitants. The manner, however, in which it spread in town, clearly evinced its contagious nature; for all who, from friendship, business, or duty, communicated with the diseased, were themselves infected: and no instance occurred where the contagion could not be traced to its particular source. A few, who more sedulously avoided the houses where the infected actually were, escaped; but all the means which come under the general designation of Prophylactics, were, as may readily be conceived, totally inefficacious. Of these the celebrated "*Vinaigre de quatre Voleurs*," or the *Acetum Aromaticum* of the Ed. Ph. was generally used, and always without success. Camphor, sewed into a small linen bag, and hung round the neck, was another of this tribe; but equally ineffectual. It will not appear extraordinary, that the lower classes of men, and those more especially of loose and debauched manners, should be the most subject to this disease; their greater exposition to the influence of infection, which their business as tradesmen rendered necessary, contributed also not a little. But the description of men by far the most obnoxious to this contagion, and who suffered

most from it, were those lately arrived from Europe; and of them, those who had never before been in a hot climate. In general those possessed of tense fibres and sanguineous temperament, were the most readily infected; and among whom the disease was most fatal. It is impossible to ascertain with precision the number of the infected among the inhabitants, and the proportion of the deaths to that, or to the general number of white males and females in St. George's. but where certainty is not, conjecture, on good grounds, may be admitted. We may therefore say that the proportion which the deaths bore to the sick, might have been about one to five; and the sick to the total number of white inhabitants, about one to about one and a half.

That part of the garrison quartered nearest to where the Hankey lay, were the first of this class of men who received the infection. A barrack, containing nearly one-half of the 45th regiment, was situated exactly to leeward of the Hankey, and distant from her about two hundred yards. It is not to be supposed, that this circumstance alone could be productive of a disease arising from contagion; but it was so in a secondary manner, by exciting the curiosity of some of the officers. One of these visited the Hankey, and, with two or three soldiers who rowed his boat, remained on board some time. The consequence of this imprudence was fatal to himself almost immediately after; and, in a little time, to many of the men: all the officers and men were successively seized with the disease; but it proved fatal only to recruits who had lately joined. The strength of the regiment at this time was 280, and of these 24 died; so that the proportion was one to something less than twelve. The smallness of

this proportion arose from the mode of treatment, as will be shewn hereafter.

About the beginning of May the disease made its appearance in the detachment of Royal Artillery: a circumstance rather extraordinary, as that corps were quartered in a situation far removed from the focus of infection. It was evidently produced, however, by the communication which the gunners, doing duty in Fort George, had with the 45th regiment; and the predisposition of the men to receive infection as far as that could be induced by excesses in drinking, and other irregularities, was by no means less than that of the sailors and soldiers of the 45th regiment. Of 84 people belonging to the ordnance department at that time, about 56 were seized with the disease before the 1st of July, and of these five died: a trifling mortality, considering the nature of the complaint. All these men, however, had been about three years in the country, and consequently suffered less from the disease, than about 27 recruits who joined the artillery in July. Of 26 of these unfortunate men who were infected, 21 died before the middle of August: a dreadful instance of its peculiar tendency to prove fatal to strangers to the climate.

About the first of June, the disease began to appear among the negroes on the estates in the neighborhood of town; and the alarm this occasioned was in proportion to the interest of those concerned in the safety and welfare of the slaves: but our apprehensions were soon found groundless; for the disease did not spread much among them, nor was it marked with the fatality which attended it when it appeared among the whites. In the course of a month its progress was so trifling,

that only about one in four was seized with it ; and the proportion of its mortality was still more trifling, viz. one in 83. It is more than probable, that had not this disease been superadded to the cacochymic complaint, called in this country *Mal d'Estomac*, in the two cases which terminated fatally, there would have been no mortality at all occasioned by it.

About the middle of June, the disease broke out in the 67th regiment ; and among the artificers and labourers on Richmond-hill. The infection was communicated by some of the latter, who had visited their friends in town labouring under it. All were successively seized with it ; but it fell heavier on the officers than the men, several of the former being young men lately arrived from Europe. The proportion of deaths was about one to fifteen.

The disease in the course of the months of May, June, and July, appeared in several distinct and distant parts of the country, whither the infection was carried by persons who had imprudently visited infected houses in town.

But the infection was not confined to Grenada alone; from this, as a focus, it spread to the other Islands, to Jamaica, St. Domingo and Philadelphia, by means of vessels on board of which the infection was retained by the clothes, more especially the woollen jackets of the deceased sailors.

I have been thus particular in stating the progress of this malignant pestilential fever, chiefly with a view to demonstrate, 1st, That it was uncommonly infectious. 2d, That it arose from human contagion, heightened by various causes to a pestilential degree of violence. And 3d, That like the plague, it has been communica-

ted, in every instance, either by actual contact with an infected person; or, by breathing air charged with effluvia perspired, or discharged from the lungs of an infected person; or by touching the clothes of, or sleeping in a place where an infected person had been."

We here offer the following interesting document, a translation from the French. It is taken from a work entitled "*Relacion Historique et Medicale de la Fievre Jaune qui a regne a Barcelone en 1821, par M. F. M. AUDOUARD, D. M. M.*"

After giving a description of the City of Barcelona and the adjacent town of Barcelonette, the author proceeds to show, that no local causes existed, of sufficient extent in either of these places, to have produced the disease; in as much as those causes had been in operation from time immemorial, and had never generated it until that year, when it was introduced, by a fleet of vessels from the West Indies.

Before proceeding however with our quotation and in order to render the facts more intelligible it may perhaps, be well to state something as to the relative positions of Barcelonette and Barcelona.

The City of Barcelona in Spain lies upon the Mediterranean sea, is situated in $41^{\circ} 22' 58'' 8'''$ North latitude, and in longitude $6^{\circ} 12' 6'' 1'''$ west from Paris. Barcelonette, which is indifferently called town or faubourg, is in the same latitude. being separated from the metropolis, only, by the harbor or port. Both are built on the border of the sea, in a kind of Basin, bounded on one hand by the sea, and on the other by a chain of mountains somewhat semi-circular, which may be considered as a prolongation of the Noyau of the Pyrennes.

The Town of Barcelonette was built in 1750, is connected with the City of Barcelona by a narrow neck or tongue of land, created by the harbor or Port. Barcelonette is the residence principally of Captains of vessels, as well as seamen, together with their families, and may be considered as strictly commercial in its character; the Quay being three times as large as that of D'ORSAY at Paris and of the same height: the ventilation is much greater, for it is built on the border of the sea, and because the nearest houses are at a sufficient distance, and are but slightly elevated. At the base of this Quay the sea leaves no bottom uncovered, as the vessels cast anchor there, not being able to land alongside of Barcelona, and their bowsprits nearly touch the wall. As the port is, as we have stated, largely open to the sea, the waves constantly beat against the walls of the quay, in such a manner that without being unreasonable, it cannot be supposed that there exists the slightest exhalation from the port of Barcelonette."*

These were the advantages of position possessed by Barcelonette, there was no mud in the docks, no decaying vegetable matter; for the walls were built of stone: and yet under all these circumstances the Yellow Fever was introduced into this town, in consequence of too free communication with vessels recently from Havana. Not only so, but after extending over a greater part of Barcelonette the disease was *transmitted* to Barcelona, and destroyed 17,000 inhabitants. For the proof of these facts, we refer to the docu-

*PARISET, FRANCOIS, BALLY--Histoire Medicale de la Fievre Jaune, page 151.

ment of Mr. AUDOUARD, to which we have already alluded.*

"Towards the close of July and about the first of August, some apprehension was excited, in consequence of the death of some men at Barcelonette. The authorities upon being informed of it, the Municipal sanitary Junta, sent several Physicians, who constitute a part of their body, to make observations on a subject of such vast importance. They soon learnt, that four persons had died at Barcelonette of a fatal disease, that is to say, a seaman, belonging to the crew, of a vessel called the Grand Turk, and his wife, who had lately come from San Felix de Quixols to see him, as well as two men from a Napolitan Polacre of War, which had been in port for some time. The Physicians who made this investigation, declared, that the sickness of these individuals *had not been contagious*, that it depended on the *season*, and that it was *unnecessary* to adopt measures for its suppression.† This removed every source of uneasiness.

On the 4th the Lieutenant of Health of the Port, gave information that the son of the Napolitan Captain, of the Polacre of War, had just died; and he added, that an Italian Physician who attended him, asserted that the disease was of a *contagious* nature. This Physician was called before the Junta, where, apprehensive that he had gone too far in his first assertion, he declared that the disease was *Petichial Typhus*.

*Page 3.

†They thus expressed themselves "Que sus enfermedades no habian sido contagiosas, antes bien proprias de la stacion, y que no exigien por lo tanto providencia alguna sanitaria.—*Extract from the official statement inserted in the Diario of Barcelona, 10th Aug.*

Meanwhile the Physicians who were members of the Junta, went to see the corpse, and reported, that having examined the whole exterior of the body, as well as the conjunctiva of both eyes, they could discover no *evidences* either of *Yellow* or *Petichial Typhus Fever*. The authorities were once more re-assured by this report. But on the same day, they received information, that a man had been attacked with a *suspicious* disease at the General Hospital, and that he was a *sailor*. Whereupon the Junta consulted the Physicans of this establishment, who denominated the disease *malignant fever*, *frequent examples* of which, *were met with* in the country, and this *third* medical declaration, still led to a fatal security.

The Chief of the Police of the Province, was informed of these facts on the 5th of August. In the meantime he had received* advices from SITGES, a small Sea Port, south of Barcelona, on the 2d of the same month, by which he was notified, that on the day before, a *woman (coming from Barcelona,)* had arrived at that place, and having recognized an *extraordinary disease*, they had informed the authorities of it. At the same time the Chief of the Police learnt, that this woman during her stay at Barcelona, had been aboard the Brig St. Joseph, called TAILLE PIERRE, that being at the house of one of her friends at Barcelonette, on the 28th of July, she found herself indisposed. Here she passed the night from the 28th to the 29th of August. On this day she returned on board the St. Joseph, where feeling very ill, two days after, she left this vessel to return to Sitges. In consequence of this important information, the Chief of the Police issued orders in this last place, to prevent the conse-

quences of this first occurrence, and sent his documents to the Sanitary Junta of Barcelona, that they might investigate the origin of the disease, whether at Barcelona, Barcelonette, or on board the vessel indicated. It was also reported, that this latter had *already* given the disease to three jobbing carpenters who died from the 27th of July to the 2nd of August; these men laboured in repairing her.

The Chief of the Police also learnt from Salou and Villa Secca, other small seaports south of Barcelona, that vessels arriving in a few days, and coming from this latter port, had men on board attacked with *suspicious diseases*.

Circumstances became critical for Barcelona, vessels going from this port, had *carried with them* a disease, which seemed *extraordinary* to the Physicians; evil reports rapidly arrived; and various causes for apprehension proved that they had been lulled into a *fatal security*; and at a meeting of the Municipal Junta on the 6th of August they were informed, that there were several sick, on board of several vessels, that there were also some in several houses at Barcelonette, and that these latter belonged, some to a Brig which came from Havana, and others to a Napolitan Polacre of war. Doctor PELLICER, one of the physicians; who practised at Barcelonette stated all of these facts, and added, that there were symptoms of *contagion*, an assertion which was severely criticised some days after, by men who wished to *conceal* the danger, or yielded to *other interests*. But they caused the misfortune of Barcelona. The Junta were also informed by a commissioner of the quarter of Barcelonette, not only that two individuals had landed from the Grand Turk, but also that they

died in the Faubourg ; and that the second mate of the French Polacre the Josephine, had been landed on the 26th of July and died the same day. Dr. PELLICER affirms that the whole corpse of this latter was *Yellow*.

This last fact is the more important, as it preceded all those, of which we have previously spoken, and as it charges with reprehensible negligence, those persons who were entrusted with the safe keeping of the public health. But this was not the first spark of the flame which was burning in the port. Already, and this has never been publicly avowed, so apprehensive were they of merited reproach, already, I say several persons had died at Barcelonette, with the *same disease* as the second mate of the Josephine.

The following details certify the facts. The second mate of the Grand Turk, was still at Barcelonette at the end of November, and thought himself exempt from the disease, because he had had the Yellow Fever in America. He then reported, that a few days after arriving at Barcelona, the Captain brought on board his family who had been at Sitges, that is to say his wife, his children, and a female servant—that all of them took sick a few days after ; that they died with *Black Vomit* at Barcelonette and the Captain himself, having left some time after in the mail boat for Port Mahon, died in this latter place. He added that, he the second mate, having carried on board the vessel his wife, his sister-in-law, and her husband, to witness the fetes which took place on the 15th of July* they

*It was the Anniversary of the acceptance of the Constitution by His Majesty the King of Spain. This fete was celebrated by tilting on the water, which attracted a large concourse of people along the port and on board the vessels which probably contributed to scatter the germs of the disease.

all took sick some days after, and the two last died, one, before the end of July, and the other from the 2nd to the 3d of August. This information was obtained from the second mate himself, at the close of November, by Mr. Bosc, Secretary of the French Consul at Barcelona.

These facts indicate with sufficient clearness, that the *source* of the disease was *in the Port, and on board of vessels* coming from Havana. At a late period it was ascertained that the Yellow Fever raged at that port in 1821. Up to this time we find this source confined on board the two Brigs, the Grand Turk and St. Joseph. These things were concealed, in the early stages of the disease; but they do not hesitate to relate them now—that the same tomb encloses the public Functionary, and the victims of his negligence, now, when a great misfortune has subjugated particular interests, which commanded *silence*. Notwithstanding the importation, and contagion of the Yellow Fever at Barcelona, are *demonstrated* by the most incontestible proofs, and by the death of *seventeen thousand individuals* in the space of *four months*.—We would hardly expect to find there concealment and culpable illusions! Alas! discord still reigns in this City, where she has obtained so many victims. They still continue to dispute about the words *Infection* and *Contagion*, and self-love will not yeild to the force of that truth, which general opinion proclaims, and which is certified by the extinction of a large number of families, as well as by facts, which at a later period I shall make known,

But let us return to the important meeting of the Municipal Junta, on the 6th of August, and let us take

from them indisputable documents ; as they have been made known by that same authority, by means of the insertion of official pieces in the Journals.

This same day the Chief of the Police of the province attended to preside, and after having recalled and weighed the preceeding circumstances, they Resolved,

First. To place in quarantine *five vessels* on board of which persons had been sick.

Second. To cease all intercourse between them and the other vessels in port.

Third. To forbid sailors from landing.

Fourth. To invite the Governor of the City to come instantly to the meeting.

These measures were immediately executed, and the entrance of the old port was closed against arrivals, which were retained in the new. The Governor having gone to the meeting, offered the armed force necessary to execute the orders which had been given, and it was then discussed whether they should interdict all communication with Barcelonette, and consequently with the harbor. This proves at least that they considered themselves on the *verge of great danger*. Nevertheless for this time, once more, the Physicians gave an advice, which was too encouraging.— They declared that it was sufficient to remove the patients from the houses, and vessels where they were, and to place them in a Lazaretto; to keep in a House of observation those persons who should communicate with them, and to sequestrate all the places from whence they were taken.

These opinions coincided very well with the *interests of Commerce*, and it was urged above all, that the population of the City and Faubourg could not live

without the assistance of the Port. Fatal consideration ! since with the *means of subsistence*, they would also receive from it, the *germs of destruction*.

In the mean time, on this same day, they established a Lazaretto, to which they transferred four *suspicious* persons, who were at the General Hospital, and who were sailors—as well as *seven others* newly taken from Barcelonette, and the vessels ; of these *five* died on the first day. A military Guard, was attached to this Hospital, an Almoner, two guards for the sick, two exterior guards, and two men with a covered litter to transport the sick. The meeting then adjourned to meet again at 11 o'clock at night. At that time those Physicians who had been summoned, having arrived at the assembly, they were given to understand, that it was desirable, that one of their number should take charge of the Lazaretto. Doctor CAMPANEY, Physician of one of the Military Hospitals, offered himself, and his offer was eagerly embraced. At the same instant, Doctor PELLICER gave notice, that he had recognised the symptoms of a suspicious disease, in a Marine of the frigate Libertad. This patient was ordered to the Lazaretto: the Frigate placed at quarantine, and the meeting adjourned.

On the 7th, they were more convinced of the necessity of removing from among the people, persons who had communicated with the sick, and for this purpose they established a house of observation, without the City at the Convent of Jesus.

On the 8th, they ordered the Commissioner of the quarter of Barcelonette, to purify by fumigations, the House from which a sick woman had been taken to the Lazaretto, and to inform himself from whence

came two persons (husband and wife) who died the day before in that town. Two houses being pointed out as suspected, as the inhabitants had been in communication with Sailors, and as two of their number had been taken to the General Hospital, they ordered them all to be removed, and conducted to a house of observation. The people agitated at the Inn of the Ecu de France and the Printing Office of M. DORCA at Barcelona. It is painful to notice the negligence which prevailed in some parts of the administration of health, for two persons died at the Lazaretto, without information being had, from what place they came. Shall we not assert that they waited for their deaths, to be certified of the danger of their sickness? In the mean time, it must be recollected after what has been said, that the authorities adopted measures to repel a contagious disease and to arrest its progress, and yet by their acts, and conduct, belied more than once the wisdom of these same dispositions.

The 9th was passed, in the discussion of steps proper to be taken, and the greatest indecision was manifested in all the measures adopted. Still, the danger became more evident, for, on the same day, the Junta was informed that in one of the neighboring ports, a man had been attacked with an *extraordinary* disease, and that this man came from Barcelona, but they contented themselves with charging Dr. PELLICER, to make observations on the subject at Barcelonette. In the mean time they received notice, that in consequence of the measures which they had ordained, several vessels, among which was the St Joseph, called Taille Pierre, had departed for the Lazaretto at Mahon, that another, the Marie, had set sail for Marseilles, and that a still

greater number had been submerged. The Grand Turk, & Josephine were of this number. In accomplishing this, they conceived that sufficient had been done.

On the 10th, the Junta wrote to Dr. PEGUILLEN Dean of the Physicians of Barcelona, to request him to designate one of his associates, who should place himself at the gate of Barcelonette, to reconnoitre the condition of the health of passengers, and to forbid those who *appeared* sick, from entering the city. It is difficult to determine what was the object of this measure, unless we suppose that it was intended to guard the city from the disease which raged in the Faubourg, and the conviction of its contagious character. Still they did not believe in contagion, at least they only believed it by half. To effect the purpose which they proposed, they consulted the physiognomy of the passengers and gave themselves no uneasiness about the goods, merchandize, and other moveables which they transported. Singular foresight, which exhibited fears which they did not like to avow, and which admitted but half way measures of insulation, which only had the effect of extending the disease, against which they wished to guard. Many of the inhabitants of Barcelonette who discovered the danger of remaining, came and established themselves in the city with their parents, and friends, to whom they offered the sad present, which consumed the one and the other, as I shall presently show.

On the 11th and 12th, the disease had already discovered itself. The Physicians of the Junta, sent to Barcelonette, visited several suspected houses there, and among them that of the Prats, they found four patients among six inhabitants. They also found one at a Baker's, it was one of his boys, who was in

a desperate condition. His disease was the same as that of the four children Prats.

These facts having been communicated to the authorities, they hastened to establish new houses of observation. The patients of whom we have just spoken, were ordered by the Junta, to be taken to the Lazaretto, whilst the remaining vessels designated were directed to be submerged, or sent to the Lazaretto at Mahon. But the disease, like a fire not arrested at its onset, began to show itself at several points at once, in the port, as well as in the faubourg. Every day new cases entered the Lazaretto, and the greater number died in a short time. At length in this imminent danger Dr. PELLICER, gave a great proof of philanthropy, by offering himself to visit scrupulously all the vessels, with a view to assure himself of the health of all the individuals, and to separate the sick. The Junta accepted his offer, worthy of all praise, and authorised him to do whatever he deemed proper for the public good. Alas! soon after, this generous citizen received his death, as the reward of such noble devotion.

The report which he presented on that occasion, made known too well the extent of the danger. There were persons sick on board of several vessels. Moreover, on the 14th, the Junta ordered, as the first general measure, to submerge all the vessels still in port, and then to disinfect them; to plunge in the sea their cordage and sails, and to make their crews encamp. It would seem that they believed in contagion, that they saw it in the vessels, and that they thought it sufficient to *purify them*, and by plunging in the sea, the murderous fire which they contained, to be entirely relieved from the evils which they dreaded. Happy: a thou-

sand times happy Barcelona, if such ideas could have been originated in the minds of those who watched over thy destinies. But oh ! fatality, this very day the 14th, the Physicians of the Superior Junta of the Province, those of the Municipal Junta, and the members of the Academy of Medicine, collectively, issued a manifest, declaring that the disease which excited public solicitude, was the *Yellow Fever* ; that it was developed in the port, where then were many vessels recently arrived from Havana, and these Physicians, from hence, concluded, that it was *imported*, that it was *exotic* ; but that *up to this time*, it was confined to the port. They attributed the first progress which the disease had made beyond that precinct, to the *heat* of the *preceeding days*, and to several *local causes*, such as the *putrescent matter* of the *sewers* which emptied into the harbor, the evaporation, or stagnation of the waters of the latter etc.

In the mean time, they flattered themselves, that the climate of Barcelona would not favor its propagation, and relied upon the fact, that the individuals who died at the General Hospital, had not communicated the disease to any person ; they inspired the hope that, *in future*, it would not be contagious. What a mode of reasoning ! The disease is *imported*, it is *exotic*, and yet is *not contagious*, whilst it is *spreading* among a population : It is easy to perceive how inconsistent such notions are.

Yet the greatest inquietude filled all minds ; the existence of the Yellow Fever in the port created the greatest alarm, the only thought was of flight. Passports were demanded, and on the 16th, the Junta ordered them to be delivered indiscriminately. They

did not question for a moment whether they would not by this measure, compromise the lives of the inhabitants of the province, and even of the *kingdom itself*, because they *did not, yet* believe in contagion. From this moment, Horses, Coaches, and Chariots were taken at exorbitant prices, and in a few days, a population of one hundred and forty thousand persons was reduced *one half*. Nearly all the *wealthy* emigrated, none but the *people* remained.

A city so flourishing, changed all at once into a place of desolation ; the *commercial relations* between the two worlds (so far as she was concerned) interrupted in a day ; the wealthy emigrated, the manufacturers suspending their labors, and industry paralysed, misery threatening, selfishness gorging upon the public resources, and the fear of death palling all hearts, such was the condition of Barcelona on this fatal occurrence. Whilst the administration either with the intention of deceiving, or of calming popular effervescence, hastened to inform the public, that none of the persons employed at the Lazaretto had sickened ; and that the illusion, the deception might be more complete, they authorised an anonymous article in the *Diario Constitucional*, in which it was asserted, that the disease of the Prat family, had been produced by putrid exhalations, emanating from a Grain Store in the neighborhood of their house. The falsehood of this assertion, was soon made manifest by a judicial investigation. But the article of the *Diario*, did not the less contribute to inspire a fatal security, by means of which the disease was extended, the more so, as no kind of communication was avoided.

Since I have named the Prat family, it may be pro-

per here, to give a short narrative of their misfortunes, because they constitute an epoch in the epidemic of Barcelona. This family consisted of the father, three sons, and a daughter. The sons who were Ship Carpenters, had worked, the one on board the brig Grand Turk, the other two, on the Saint Joseph. They fell sick on the 9th or 10th of August: the same occurred with the sister, and on the 12th the authorities directed them to be taken to the Lazaretto. He who had worked on the Grand Turk, aged 24 years, and whose name was Mariano Prat, died on the 15th, the others including the sister soon followed, for the last died on the 20th. Their father, who had been left at their house, being attacked with the disease, was about to be removed from thence on the 17th; when the people of Barcelonette full of the opinion of several Physicians who did not believe in contagion, (for it must be admitted, that there were some who maintained the contrary) revolted, and rescued the patients from the hands of those, who had been sent to carry him, and repulsed the soldiers who accompanied, to insure the execution of the order. On this occasion these persons manifested, too well, their conviction that the disease was not contagious. They hugged the patient in their arms, rubbed their faces with the sweat which fell from his, took his bed clothes and placed them in contact with their bodies, and committed many other excesses of this kind. Vociferating against the Physicians of the Lazaretto, they accused them of poisoning the sick.

It was thus, they explained the rapid termination of this dreadful disease, and the frightful death by which it was followed. Finally the people triumphed, and Prat,

the father, torn from the vigilance of the authorities, was concealed in a house, where, it is said, he died the same day. We are assured that on the next day the Junta were under the necessity of removing the dead body.

Who can estimate the consequences of this day of rebellion? New disasters must have resulted. For not only were several individuals attacked, who had communicated with the patient, but they also became deaf to the voice of authority, they omitted the preventive measures which forbid communication between the sailors, and the people of the Faubourg. All was reduced to original confusion. The administration lost their power, and their ascendancy, they were no longer permitted to enter the houses of Barcelonette, to ascertain the condition of the health of its inhabitants, for the purpose of separating the sick; and on the occasion of the Physicians of the Superior Junta going there for that purpose, they were prepared to receive them with fire arms. Thus was violence employed in promoting the progress of the scourge of this unhappy country. Besides this, *politics* were allowed to mingle in all these dissensions, one party accused the other of having poisoned the public fountains; in short they *persisted* in seeing the disease where it was not. They also opposed every thing which was undertaken with a view to the public welfare; the inhabitants of the Faubourg refused the assistance offered by the city, and in their blindness they did precisely every thing, which was calculated to render the germ of the disease fruitful among them, and which was soon to engulf them.

At this period, we find the authorities compelled to make them, the most serious concessions, which usually occurs, as a consequence of the dominion which a rebellious people obtains over rulers, who either cannot or dare not employ force. The faculty was authorised to permit the patients to be accompanied to the Lazaretto by a parent, or friend, who staid with them, and to be visited by the Physicians whom the family might select. In this the regulations of the Lazaretto were violated. But to justify the people, and to let it be known that the police gave every day examples of this violation, it is proper to state, that the *Physician of the Lazaretto* and his assistants, had the privilege of *going into town*, which *disavows the necessity of such establishments*. Their belief in contagion was but feeble, and these persons did great mischief; because their *colleagues* considered themselves under obligation, to make them great concessions, which operated to the detriment of the public welfare. This happened in the Junta of Spain, substituted for what we call in France, the General Council of the Departments and those of the Municipalities. Even, the Physician of the Lazaretto himself *did not, nor does he now believe, that the Yellow Fever is contagious!* How is it possible that he could occupy, *such a position*, possessing such *ideas!* It is a *contradiction* which *reason rejects*; it is like being *consecrated* in the *Temples*, whilst we make a profession of *Atheism*. Thus the Lazaretto, which was instituted to extirpate the disease from among the people, was perhaps, *one of the sources*, from whence the contagion was spread to the city.

After such a want of forethought, we may expect to

see the disease making rapid progress. The Commandant General of the Province, soon made arrangements to leave the city, for the purpose of removing himself and family from the contagion, which became more and more manifest; but his preparations for departure excited a general murmur, to appease which, he issued an order on the 27th, by which he re-assured the people of his intentions. In fact he remained, but after sending away his family.

On the 29th the Superior Junta justly inquieted, for not only had the disease spread in the Faubourg, to which it had been hitherto confined, but it had already *appeared in the city*; the Junta, I say wished to enlighten themselves by another Council. For this purpose they interrogated the Physicians of the Civil Hospitals, on the nature and character of the disease. These were of the opinion of the first, and the authorities once more deceived, communicated their error to the public, by informing them of this last decision; they added this other consideration, no less seductive and deceitful—that in 1803 they had the Yellow Fever in Barcelona; that then only 73 persons had died, that its progress had been arrested by certain precautions, and the establishment of a Lazaretto, and that they would adopt all these measures. Above all they added, that none had as yet contracted the disease near the sick. But the facts of the day had already refuted the assertion: for on the 24th and 26th of August, two sick guards had been received at the Lazaretto. These facts are *affirmed*, as I find them recorded in the reports of the Physician of the Lazaretto, which are daily made public by posting, and by means of the Journals; and we may well credit what they state,

as they concealed every day from the public a portion of such events as were calculated to alarm.

Early in September, the extension of the disease in the Faubourg, became still more manifest, and dissipated these illusions. The sick guards, as well as the Military Guards, were attacked, many of the inhabitants of Barcelonette experienced the same fate, and the disease showed itself more fatal from day to day. *Then* but too late, they feared for Barcelona, then they began to show that they were *apprehensive of contagion*, and on the third of September, all communications between the Faubourg and the city was interdicted. But the time had passed, the communications between the city and the Faubourg, had disseminated the disease, and on the 10th the mortality was so frightful in the latter, that four hundred persons left it, to place themselves under observation in an old convent (San Geronimo de la Murta) at a league's distance from the city.

The same day the truth was made known, and the chief of the Police of the Province, Don Ramon Zarco de Valle announced by a proclamation; that all the measures which had been taken, to arrest the disease at its origin, had been fruitless. He exhorted the *people* to be *calm*, and *departed two days after* with the Superior administrations of the Province, to go first to Pedralves, and then to Sparaguerra, four leagues from Barcelona. General VILLA CAMPA commandant in chief, also left with a party of troops, and the Governor of the City General JOACHIN RUIZ DE PORRAS, retired with the Garrison into the Citadel under the pretext of keeping it, but he did not delay to take up, his lodgings in town at the Palace of the Government

and in so doing evinced a firmness of character, which was not belied during the prevalence of the epidemic.

The misfortune of Barcelona was no longer doubtful. A Weaver named SELE', who lodged in Fon Seca street, and who was in the habit of fishing with the line, and visited the vessels and faubourg, died of Black Vomit on the 25th of August. But his wife, his daughter, and confessor, who were placed in a house of observation, had not the disease. This man was designated as the first that was attacked in Barcelona. Little however, is said about him, because, none of the persons who had been around him, nor in the same house, were attacked.

Nearly about the same period, however, it did not so happen, with a person named ROMA, a Saddler, who lodged at Saint Sebastien, and who also went to fish on board the vessels. He had the Black Vomit and died, his servant, as well as *nine* of his neighbors, who visited him during his sickness, experienced the same fate; many cases occurred very soon after in this neighborhood, which created a great sensation in the public mind, for the disease was seen to attack one house after another, extending to the neighboring quarters, like a devastating torrent, and in its progress bearing off the greater number of persons that it attacked, in its sad career.

But it soon left the limits of these quarters, conducted by the intercourse between families, or the ties of friendship. Before the fifteenth of September, there were already several other patients who had experienced the Black Vomit, in several parts of the city. It was more especially in the houses, into which persons

from Barcelonette had retreated, or in those whose residents had frequented the faubourg. Among them are enumerated the house, of the Marquis d'AGUILAR, situated in one of the most beautiful streets of Barcelona, and which was inhabited by several families of all classes, of whom several persons had visited Barcelonette. In a very short time forty deaths occurred.—We must not omit to mention the family of CATALA, of whom but a single individual survived, and which communicated the disease to a considerable number of the neighbors. That of Galceran, place Saint Sebastien, the residence being near the Sea Wall: the Cafe des Gardes: the Orphelins de la Hopital General; the daughter of the Tailor of whom Dr. BANI speaks etc. On this occasion the people re-enacted the scenes which had been performed on the removal of the last of the Prats, and we must not forget to state, the insults, and dangers to which this same Dr. BANI was exposed. He was Chief Physician of the Military Hospital, and member of the Superior Junta of the Province. So soon as the disease appeared he declared for contagion. Happy inspiration! which would have prevented many evils, had it been otherwise entertained. Called on the 7th of September, to one of his neighbors, a Tailor, whose daughter was sick, he recognised the Black Vomit. The family were anxious to remove themselves, immediately, from the contagion, and to place themselves under observation, whilst the patient should be removed to the Lazaretto. Measures had been taken for these dispositions, the family had gone to a house of observation. The people, keeping in view the house, waited for night to carry off the daughter, against this point

the party of the *infectionist* Physicians directed their attacks. Dr. RIERA, saw the patient, and declared that she *had not* the Yellow Fever. This Physician was undoubtedly sincere, because he evidenced by his conduct, that he did not fear contagion. But he paid for his error with his life. Yet his declaration in regard to the Tailor's daughter, excited the people, who vociferated against Dr. ВАИ, broke the glasses of his house, and forced the guard stationed at the door of the patient. Not being able to possess themselves of his person, they made his *effigy*, which they paraded about the town, in the most scandalous manner. This Physician was finally compelled to quit Barcelona, to save his life. The family of the Tailor was returned back to his house, the patient died, the Tailor, himself, experienced the same fate a few days after, and the same occurred to several of the neighbors, who had been the movers, in all these scenes of violence and derision.

At the same time, the house of a merchant, Moncade Street, had become a nucleus of contagion. A quantity of wool had been stored there. The Porters and several inhabitants of this house, who had *removed* it died. This wool, was washed by order, and caused the death of several persons. Mattrass makers, bought a part of it, and all engaged in working it died. Eleven were counted in several parts of the city, and in a few days. The names of whom will be given in the 2nd part of this work (*Section 2nd 1st Chapter.*)

All of these circumstances, and several others not so well ascertained, favored the dissemination of the disease. The assemblages of the people, the visitation of the sick, and the fatal security which they endeavored

to impress upon their minds, seconded the propagation; the manners and domestic habits of the Spaniards, together with the the inconvenience of their houses contributed equally. But what was still more pernicious, was the obstinacy, in concealing the sick, and in removing them from the observation of the authorities, and in preventing them from being carried to the Lazaretto. It is even asserted, that under the influence of this same spirit, they were hurried by their blindness, even to bury the dead in *cellars*. Under all these circumstances the disease made rapid strides, the thread was lost in Barcelona, & very soon they had only multitudes of sick to treat. In the mean time it was observed, that some quarters were more particularly attacked, without being produced by any *local cause*, others suffered at a later period, & some were entirely exempt. The advantages of position did not amount to much, it was only ascertained, that those which had the most intimate relation with the faubourg, as the quarter of *Bourse, les Encans, Moncade Street etc.*, were those which first suffered, and lost the greatest number of persons." At page 37 the author makes the following remark.

"The preceeding details, leave no doubt as to the origin, the nature, and the ravages of the disease, which afflicted Barcelona. The germ of it was brought from Havanna, by several vessels which left there on the 19th of April. Those on board of which, the contagion first manifested itself, were the brigs Grand Turk, and the Saint Joseph, called Taille Pierre. Not only had the first, lost the brother of the Captain at Havanna, but also during the voyage a boy, who the Captain declared, had fallen from the mast, and was thus killed. And it was she also that furnished the first

patients who died at Barcelonette before the end of July. The same may be said of the Saint Joseph.

The vessel which had patients, after those which I have named, was the Napolitan Polacre la Josephine. It is generally believed that the Napolitans contracted the disease, on board of vessels from Havanna, because they went there to work. These were expatriated men, who endeavored to gain a livelihood, by rendering themselves useful in the port, to all who would employ them; their principal occupation was to discharge vessels.

We must confine ourselves to these first facts in reference to the commencement of the disease, in the port, if we are disposed not to fall into uncertainty, and error.

Probably, other vessels coming from Havanna, contained the germs of the contagion. We are led to this conjecture when we know, that several of them who had lost men on the voyage, declared that those men died *by accident*; whilst others who had sick on board, which they did not wish to acknowledge, forced them to dress and to make their appearance at the hours of health visitation, as if they had been well. But in the question under discussion, it is sufficient to know, that the port of Barcelona contained a nucleus of contagion, to be convinced that many other vessels, whether from Havanna or ports in Europe could receive from this source, the communication of the Yellow Fever, and subsequently Barcelonette which was most frequented by Sailors. However, leaving here these enquiries, I will content myself, with a statement of the number of patients on board of each vessel.

The author from whom these quotations are made, next proceeds to specify the names of the vessels in port, on board of which the disease occurred, with the number of patients furnished by each, whether from Havanna, or other places.

Vessels arriving from Havanna.

The Convoy which sailed for this port, on the 19th April, under escort of the frigate Prompte, consisted of 57 sail, destined to different ports in Spain. Twenty four of them arrived at Barcelona, from the 17th of June, the day of the entry of the brig Eucharis, which was the first, to the 25th of July, the day of the entrance of the brig L'Esperance, the last. Of these I have ascertained, that of *twenty-four, ten* had sick, which is proved by the report of the Physician of the Lazaretto. But I will not guarantee, that there was not a greater number, nor on board a larger number of vessels.— I will even add that I do not know at this time, the persons who owe their disease to having visited these vessels or their crews.

| | |
|---|---------|
| The brig Grand Turk, | 5 Sick. |
| “ St. Joseph called Taille Pierre, | 5 “ |
| “ Frigate La Liberte, | 4 “ |
| “ Polacre Carmen, | 2 “ |
| “ Golette La Vierge del Carmen, | 3 “ |
| “ Polacre St. Antonio, | 2 “ |
| “ Golette Etoille, | 3 “ |
| “ Brig Eucharis, | 2 “ |
| “ Bombard Notre Dame du mont Carmel, | 1 “ |
| “ Brig Constance, | 1 “ |

Vessels coming from Ports in Europe.

The vessels not belonging to the convoy from Havana, and which had sick, are :

| | | |
|-------------------------------|---|-------|
| The Napolitan Polacre of War, | 5 | Sick. |
| “ Polacre La Josephine, | 2 | “ |
| “ “ doux nom du Marie, | 1 | “ |
| “English Brig Harmony, | 2 | “ |
| “ Patriot Brig Lacy, | 3 | “ |
| “ Polacre St. Jago, | 2 | “ |
| “ “ St. Francis de Paule, | 1 | “ |
| “ “ Les Ames, | 2 | “ |
| “ English Golette Jessy, | 1 | “ |
| “ Polacre la Brilliant, | 1 | “ |
| “ English Brig Sarah, | 1 | “ |
| “ Gloire St. Antoine, | 2 | “ |
| “ Gloire du Christ du Grau, | 1 | “ |
| “ “ “ St. Joseph, | 1 | “ |
| “ Pacquebot of Mahon, | 1 | “ |
| “ Polacre Garde Cotes, | 5 | “ |
| “ A disarmed Gun Boat, | 1 | “ |

32.

There were also four cases at the encampment of the crews, but they were unable to indicate from what vessels they came.

Recapitulation.

| | |
|---------------------------------|----|
| Vessels from Havanna, | 28 |
| From different ports of Europe, | 32 |
| The Encampment, | 4 |

64

We make one more extract from Mr. AUDOUARD at page 45.

“ I should add to complete this history, that this disease manifested itself as well in the port, as at Barcelonette, in the mean time the small coasting vessels, came and went constantly. It is not therefore aston-

ishing that it should have been carried from Barcelona, into some of the small ports in its vicinity, where it was immediately stifled. Whilst at Mahon, Palma, and Tortose it spread to the adjacent territory. That which was so happily arrested at Marseilles, came from Malaga, where it had been introduced by a Danish vessel, called the Gneison, which arrived there on the 1st of August, coming from Barcelona, from whence she departed at the end of July. Among other vessels which this infected at Malaga, they enumerate the Danish Brig Nicolino, Captain MOULD, which left this last port on the 26th of August, as suspected, to undergo quarantine at Mahon. The Captain took it upon himself to go and perform his quarantine at Marseilles, where he hoped to be released on easier terms. He arrived there on the 7th of September, having lost a man on the voyage, and was sent to Pomegue. His vessel had been closed, since that death, they opened her hatches, on the 8th, and after that day, several neighboring vessels were attacked with Yellow Fever. Six of them furnished more than thirty cases."

In confirmation of the statements of Mr. AUDOUARD, in respect to the importation of the Yellow Fever, at Barcelona in 1821, we offer the following letter signed by three distinguished Physicians, who were sent by the Royal Academy of France, and by order of the King, to investigate the origin, and history of the disease, and to report, what steps would be necessary to prevent its introduction into France. *

* Histoire de la Fierre Jaune observe' en Espagne et particulierement en Catalogne : dans L'annee 1821 par Bally, Francois et Pariset page 639.

BARCELONA, November 1st, 1821.

To M. The Chief of the Police,
of the Province of Catalonia. }

We pray your Excellency to pardon, the length of time we have taken, to reply to your honorable invitation. The sickness of one of our number, and the unhappy loss which we have sustained in him, the serious indispositions which we have suffered, and from which one of our number has not yet recovered, incessant occupation, and finally, the difficulty of uniting ourselves at will, with the Physicians designated by you; such are our reasons, which will undoubtedly entitle us to your indulgence. Let us now proceed to the matters in point, which you have had the goodness to submit to us.

The *first*, is to determine the character of the disease, which we have come to investigate. Now, the symptoms which we have met with in the greater number of patients, and more especially those, presented in the case of the friend, whom we have lost, have convinced us, that the disease which has so cruelly afflicted Barcelona, is the *true* Yellow Fever of America, the same as we have seen it, at the Antilles, as well as Cadiz.

The two following points, are associated with two very delicate questions.

The first is to know, if, the Fever with which we are occupied is foreign to Spain, if it has been imported there, or if on the other hand it has developed itself, from local causes; or if finally, being brought from abroad, it has been fomented by particular circumstances of the place, of regimen etc?

On this primary question, an apparent concurrence

of causes has created difficulties, which has given rise to a remarkable diversity of opinion; but in the midst of these difficulties, there are several circumstances, which to us appear preponderant, and which have induced our convictions. The principal which is met in all questions of this character; is that the *first* appearance of the Yellow Fever at Barcelona, coincides with the arrival of vessels, coming from places where that disease habitually reigns. It even appears, that the *first patients* belonged to two or three of these vessels. Some circumstances dependant on localities, or, the state of the atmosphere, might have *favoured* the invasion of the disease, but they could not have *originated* it. If there be any doubts on this matter, the sad occurrences at Tortose, are sufficient to dissipate them. It is for us if not *positively proved*, at least *highly probable*, that the Yellow Fever was *imported* from America to Barcelona, as it has been into other parts of Spain, in the greater portion of the preceeding epidemics.

The second question, which is intimately connected with the preceding, is to know if the Yellow Fever imported to Barcelona has the sad property of *being propagated by contagion* ?

This question is so important, it is associated with interests of so elevated a character, that we are unwilling to determine in the affirmative, until after the most serious examination. But the *facts which establish the property with which we are engaged*, are so *numerous*, so *various*, and yet of so perfect an *identity*, even in their *variations*; the proofs and counter-proofs of the *transmission* of the disease by *concentration*, and of *non transmission* by *precautions*, are so *decisive*, they *speak so loud*, that the mind is *subjugated*, and every

objection falls. Had we only the example of our unfortunate friend, that example would be peremptory. Yes! in our judgement, the Yellow Fever *is contagious*, and the conviction which we have acquired, is confirmed by what took place at Tortose, *where communication propagated it*, as at Barcelona; by what took place at Mahon, and Marseilles, where *insulation bounded its progress, and extinguished its activity.*—This conviction now a days, has obtained even among the people, for in the end, *nothing can resist the authority of FACTS*, and the simple good sense of the vulgar often takes the advance of the hesitations, and the sophisms of INTEREST or SCIENCE. We do not hesitate to add, that the Yellow Fever of Barcelona is contagious to a degree, which we have never witnessed in any other Epidemic of the same kind, which always happens when a contagious disease, attacks a new population, whilst in communities *already tested*, the contagion seems to lose its evidence, because it loses its energy, more especially in connexion with persons, who have already been sick, or indisposed under the action of the same causes. However, in expressing ourselves thus plainly, we have not the temerity to believe ourselves infallible, and if new lights, should place us under the necessity of reforming, or even of changing our opinion, we shall easily make the sacrifice to truth.

After, having thus expressed our opinion, as to the character of the disease, its most probable origin, and upon the property which it manifested, there remains a fourth and last point, touching the treatment which it requires. But we declare without reserve to your Signory, that this last object is the height of the diffi-

culty. The Yellow Fever is a Proteus, which assumes so many different forms, and offers such strange anomalies, whether, in the slowness or rapidity of its progress, or in the complication, the succession, or the degrees of its phenomena, that it is impossible to establish a fixed and invariable rule for its treatment. Nevertheless, in the midst of the various scenes of which the Physicians of Barcelona have been spectators, the experience of those gentlemen has taught us many useful lessons, has proved that general spontaneous sweats, arising early in the disease, were of the most favorable augury, and that they soon led to the most happy solution. The abundance and facility of the urine are no less favorable, whilst the freedom of the bowels must not be overlooked. It is by these indications of nature, that we have regulated our actual practice. It would be our duty to present you with a statement of it, but this involves tedious details, which we would spare your Signory. Meantime if it is desired, and if you have the goodness to authorize it, we will make these details the subject of a particular note, which shall be placed at your disposal. We beg you to believe, that in preparing this note, we shall be conducted by that spirit of truth and modesty which should be carried into all things, and especially into medicine. Notwithstanding, however good may be the treatment, a good health police would be infinitely preferable, etc.

We are with the most lively sentiments of gratitude, and respect, &c. &c.

Signed,

PARISET,

FRANCOIS,

BALLY.

The following details are taken from the work last quoted.*

"Our adversaries are always asking us for a single fact, which plainly proves that the Yellow Fever acts beyond its primitive source. In reply to this we adduce particular facts, and sufficiently numerous, which we have already presented. We state the fact of Tortose, the fact of Asco, of Mequinenza, Fraga, Nosaspe, and of Palma. Instead of one, we here offer six, all great, all important, and all taken from one, and the same epidemic. What more then do they want? The occurrences are so singular, that in order to explain them in their sense, we must suppose that at Barcelona, Tortose, Asco, Mequinenza, Fraga, Nosaspe and Palma, in places so different, of such opposite conditions: in places where the Yellow Fever had never before existed; because the causes necessary to produce it had never before been met with, until then,—we must suppose, that there suddenly occurred in the same year, and at intervals of a few days, changes of temperature, of localities and individual constitutions so great, so entire, so contrary and so uniform, that the Yellow Fever was the inevitable product of it. A kind of incomprehensible concert, a gratuitous and unreasonable supposition, contradicted by antecedents and analogies, a supposition which is chimerical and absurd. So long as we consult our proper senses, we *suppose nothing*; we describe *what*? A succession of facts *seen, observed, examined*, and established by men of the highest intelligence and greatest integrity. These facts collected we *conclude*, but our conclusions

* Page 73.

amount to nothing more than the *facts themselves*. Whatever may be done, in writing the history of the Fever of Barcelona, truth requires that it should be stated on what occasion it exhibited itself here, or there, on the borders of the sea, or in the interior of the territory, in low or elevated positions; at such a period, after such or such communication, &c. Now recalling these simple naked circumstances, virgin (so to speak) and to say that the Yellow Fever of Barcelona was contagious, is to say in our opinion, one, and the same thing; with this difference, if it can be called one, that in the *recital*, the proposition is developed, and that it is abridged in the conclusion. What in fact is this word *contagion*, if it is not a *short expression*, if it is not *equivalent* in discourse, to all the *imaginable* facts of *transmission*.

We have just remarked, that the facts of this nature which we have hitherto cited, have all been taken from the epidemic of 1821. How then if we pass to other periods, and discover observations precisely identical with these, offered us by preceding epidemics. Let us only instance among these latter, the most simple, the best attested, and most conclusive, disregarding uncertain, and doubtful accounts. For instance it is, a point always contested as to the true introducers of the memorable Yellow Fever of 1800, at Seville and Cadiz. In fact the origin of these deplorable calamities is almost invariably lost in large cities; the carelessness of the inhabitants, the imperfections of the police, the relaxation of discipline in certain parts of the public service, the facility of deception, the combinations of the interested to hide all traces of it, and finally the silence of Physicians, who are despised, and

dare not for this reason avow it; such are the causes which in great epidemics, have effaced all traces of the disease, and have concealed the original source.— Hence it is impossible to discover where, when, or upon what persons it first showed itself, etc. Yet in the midst of so many doubtful circumstances, there exists an important consideration, it is that vessels had first arrived from the Antilles, which at the places from whence they departed, had witnessed the ravages of the Yellow Fever, and which during their voyages had sickness and death; and whose crews had scarcely landed, and entered the town, and established themselves in this, or that quarter, before the disease was seen to break out. This is the constant and fundamental fact; which predominates over all disputes.— Thus in 1800, the Frigate Eagle, the Polacre Jupiter, the Corvette Le Dauphin, left the Havanna, which the Yellow Fever ravaged with fury. During their voyages from Havanna to Cadiz, the Polacre had nearly all her crew sick of this Fever: she lost, *two* men: the Frigate, *five*, the Corvette, *three*. These three vessels are received at Cadiz, and almost *immediately*, the Yellow Fever appeared in the quarters where the men belonging to them went to lodge. The disease at first seemed masked, disguised, and was not distinctly recognised, a subject of doubt and contradiction among the Physicians, as at Barcelona in 1821. It would seem that Physicians who only act with experience, do not desire theirs. We know the rest.

Strange co-incidence! almost at the same instant, the Yellow Fever made its appearance at Seville.— Could it be possible that the localities of Seville had changed to the extent of developeing this Fever, *hith-*

erio unknown ? This is an imagination which may be indulged ; but what is not imaginary is, that the passengers brought by the Dauphin, separated into two parties, of which one went to Cadiz, and the other to Seville. Is not this exactly what took place at Barcelona in 1821 ? Do we not meet with the same in all the intermediate epidemics, as well as the antecedent ?

Facts of this nature, so simple, so public, for the plain reason, that they are so constant, are very significant ; but because on leaving the vessels, the disease penetrates and insinuates itself into large cities without leaving any traces of its first introduction, these facts are rejected as unimportant, as foreign, and they are excluded from the question. Be it so, but let us enter the small neighboring cities, where nothing is concealed, where the most trifling occurrences are of public notoriety, where every thing, so to speak is, seen and known instantly.

There we will learn, as for instance at Port Royal in 1800, that the first patient attacked with Yellow Fever, was Antonio Groso, a Joiner, who worked on the Corvette Dauphin. At port Saint Marie in the same year, the first patient was a Genoese who came from Cadiz. At Rota, they were Joseph Marie Bravo Andre Curtido and Joseph Bernal, who came from, Cadiz and San Fernando. At Espera, they were muleteers who came from Cadiz, towards the middle of September. At Ubrique, it was a fugitive Priest from Cadiz. At Moron, they were carriers who brought oil taken from the ports etc. Did the disease thus freshly introduced into all these places confine itself to those who brought it ? Undoubtedly not ; It extended to the inhabitants of the same houses, wives,

brothers, parents, friends, and neighbors. Thus the Priest from Ubrique gave it to his uncle, surgeon of the place, who himself infected all his family. The muleteers of Esperra, gave it to the proprietors of the Inn which received them. The carriers of Moron, transmitted it to their families. The man from Port Saint Marie extended it to all the persons in the house where he staid, and from hence it spread to the adjoining houses, and there established its first source where it remained for a long time, as it did at Cadiz.

Port Royal, port Saint Marie, and Rota, are on the borders of the ocean. "Similitude of situation, exclaim our adversaries ; hence similarity of cause, hence the disease originated from the infection of the waters." Very well ; but Esperra ! Moron ! Ubrique ! and the peak of Medina Sidiona ! These corporations are situated far from the sea, and in the interior of the territory ; one, Esperra at ten leagues north of Cadiz, at the base of a mountain, on a dry, uncovered soil, exposed to all winds ; there no lagunes exist, nor marshes, nor even woods, and within the memory of man no endemic disease : the other, Ubrique possesses a situation no less favorable to health, as it is placed on a soil always dry, between pyramids of rocks traversed by every wind. Moron is situated still further in the interior, from eighteen to twenty leagues from Cadiz, north east, near the source of the Guadaira, and consequently on an elevated site, where the moisture necessary for the spontaneous development of Yellow Fever never existed. Finally from the base of the mountain of Medina Sidiona, an hours rapid ascent is necessary to reach the village. How can we possibly imagine, that the Fever of America, should here develope *itself*,

and all of a sudden? How advance the same assertion in respect to Ubrique, Esperra, Moron, and why create chimerical causes, whilst real ones *peak*, and so to express it, *cry aloud*?

But let us proceed. In 1804 the Yellow Fever ravaged at the same time Cadiz and Malaga. Whatever may have been its origin in these two cities, and whatever light is thrown upon this point by the works of Arejula and Bally, we have determined to dispute no longer now a days. In 1804 then, Cadiz and Malaga being afflicted with Yellow Fever, the following observations were made. John de Cordoue, a muleteer arrived at Espejo from Malaga; he then had the Yellow Fever of Malaga. As he had been charged with many commissions, he received many visits, Marie Cheves, Francois Rodondo, the wife of Francois; Bernard Garcia, the father of Bernard, his mother, and three brothers; Marie Lucina and her mother; these eleven persons visited the Muleteer, and contracted his disease. The Muleteer died, his widow and daughter were sick, and the widow died. At Ronda, the same year, two men coming from Malaga, lodged at the house of Marie Delrio, who took the Yellow Fever. Two inhabitants of Ronda likewise coming from Malaga, already attacked with the same disease, that is to say Bernardo Rubio, and Don Francisco Ruiz with one of his daughters; this daughter gave the disease to a female servant, the bleacher of the house, and to several of her friends who came to see her.

At Esperra, a troop of Soldiers coming from Malaga was lodged by the inhabitants; the greater portion of these soldiers died with Yellow Fever, and gave it to their hosts.

At Rambla, Alphonso Nieto, arrived from Malaga, on the 21st of August. His cousin german inhabiting the next house, Alphonso Castro, received from him the Yellow Fever; then their parent, Marie Marina de Doblas, in the adjoining house; after Marie, Christophe de Doblas who occupied the same residence, and Marcos Garcia de Luque, future spouse of Marina. Next came the opposite house to that etc., etc. This is what relates to Malaga, and we are far from having stated all respecting the Yellow Fever of this city, we do not here allude except to the most evident transmissions. Besides at Espejo, at Ronda, at Rambla (for Esperra is already known) what are the localities? Espejo, at four leagues from Cordoue, occupies an elevated position, dry and covered with vines, no place can be more healthy. Rambla at six leagues from Cordoue, yields in no respect to Espejo. Ronda, is situated on the declivity of an elevated hill; the position of this village is delightful: its fertile soil is planted with Olives, Mulberries, and Vines, and the health of its inhabitants is invariable. How then can we explain the appearance of the Yellow Fever in places so illy adapted for it? Is it not evident, because we have already stated, first that it was brought there from Malaga, secondly, that the inhabitants of Rambla, Ronda, and Espejo, who had it, would never have had it but for this importation.

Let us now proceed with Cadiz. An inhabitant of Ximena, Don Antonio Montero, who made the voyage to Cadiz during the epidemic of 1804, returned home. The day after his arrival he had the Yellow Fever.—From his house this Fever passed to the neighboring houses, and extended itself to all the quarter above.

An invasion precisely similar took place at Los Barrios: one of our number has given the most circumstantial details of this last epidemic* which was carried into this place by a soldier, Manuel Ruis. At Port Saint Marie, a Valencien, a soldier of the regiment of Jaen, a sergeant of the regiment of Farnese, and the wife of this sergeant first had this Fever, and contributed to spread it, all four came from Cadiz. At Rota, it was Gaeten, an inhabitant of Rota, and two strangers of whose names we are not informed, all three likewise came from Cadiz. But, however positive may be the observations collected at Rota, and Port Saint Marie, these two cities are too near the sea, to enable us to deduce from them the same conclusions as from the facts observed at Ximena—which is situated fifteen leagues east of Cadiz, and three leagues from the shores of the Mediterranean, on a soil elevated several hundred feet above the level of the sea, and consequently in a situation irreconcilable with the spontaneous appearance of the Yellow Fever.

Let us not forget, that we are here speaking of the epidemic of 1804. This same year, Gibraltar had the Yellow Fever, as well as Cadiz and Malaga. From whence came this Fever to Gibraltar? Did it arise there of itself? Was it introduced there? And by what means? Questions which are to us insoluble, and which we cannot answer, and with which therefore we will not meddle. But what is known with the utmost certainty, is, that smugglers going from Gibraltar carried the disease to Algesiras; and there perished, with a part of their family. An inhabitant of San Roque,

* Du Typhus d'Amerique page 44 et., suiv. 1814.

Don Pedro Langlada, had then his son at Algesiras, this son contracted the Yellow Fever, his father hastened to bring him; both returned to San Roque. The father on his return had the disease, and transmitted it to five persons of the neighboring house. The whole street was soon invaded.

But Algesiras is situated eighteen leagues east from Cadiz, at the foot of a hill, on the borders of an immense rock which bears its name, and which is bounded on its eastern side by the rock of Gibraltar; the waters are clear and pure; the heat is moderate, in the neighborhood is an agreeable and salubrious country. On the other hand, San Roque, at two leagues further east, and half a league from the Mediterranean, occupies a considerable elevation; with no sewers, and no humidity; nothing threatens health, on the contrary every thing is favorable to it. Besides, these two populations had the Yellow Fever but once, at the period and by the means which we have just announced.

One of us has reported, in another work how this Yellow Fever of 1804 was carried from Gibraltar to Ayamonte, by means of a fisherman. This man had communicated at sea with a vessel from Gibraltar: he died; all his family followed him, as well as nearly all the inhabitants of three neighboring streets: not even the Physician of these unfortunate people was spared. Never was contagion more evident. It had for a witness the first Physician of the city of Cadiz, Dr. FLORES, who came to arrest the progress of the evil. But Ayamonte is fifty leagues north west from Gibraltar, at the mouth of the Guadiana, and opposite Castra Marina, a portuguese city which did not suffer. Could a vice of locality, be felt on the left bank of a river

without being experienced on the right? Could such a vice have extinguished itself, and if not, why has it remained inactive for eighteen years?

So many striking examples will perhaps take from sceptics the desire, to ask from us more. We here only quote those which are least known at present.—

We are indebted for them to the Medico-Chirurgical Society of Cadiz, which is about publishing them. Scruples, perhaps not well understood, have prevented us from taking from the work of Arejula the facts concerning transmission which he has collected; facts so numerous, so conclusive, so often reproduced, and nevertheless to all appearance forgotten, or stifled by our adversaries, seeing that they so obstinately revive the question which those facts have long since decided. Besides, moreover, we have not brought to mind the epidemic of Xeres, in 1800, an epidemic equally extensive and fatal, nor that of Lebrija, where the Yellow Fever was carried by a regiment of Cavalry from Alcantra, which left their sick there; neither have we instanced that of Carlotta, during the same year. Carlotta, a beautiful village, elevated nearly twelve hundred feet above the level of the sea, constructed in modern style, and on a dry soil, presenting towards the south, composed of large airy houses built in strait lines, paved with good stone, and kept with the greatest propriety. Despite of all these advantages, Carlotta was nearly depopulated in 1800 by the Yellow Fever, brought there by fugitives from Cadiz. Let us glance at a chart, and look for Carlotta, and see if we can there discover this new source of infection; search for swamps and ponds of water, and you will not find them. What can be more eloquent than such

a fact? Has it not been engraved upon the memory for twenty two years? How is it that since twenty two years, it has not silenced those who exclaim "*that the Yellow Fever does not act beyond its source, and that carried into the country, it is not transmitted to any person.*"

What end will be answered by presenting the epidemics of Vera, Antequerra, Montilla, near Espejo, of Murcie, and many others where the facts of contagion are so palpable? As these facts derive their chief strength from their repetition, this too uniform repetition is a source of fatigue to the reader. The little that we have reported should suffice with men of good faith, this little precludes the necessity of our resorting to those which we might obtain from subsequent epidemics; from that of Cadiz in 1810 which was circumscribed and short: from that of 1811, and 1812 at Murcie, Jumilla, Cieza, Totana; from that of 1813 at Cadiz; from that of 1819 at San Fernando, Cadiz, Xeres, Seville etc; from that of 1820 at Xeres, and Port Saint Marie, and even finally from that of 1821 at Port Saint Marie, and the neighboring places, Cadiz, Rota, San Lucie de Barameda, Lebrija &c: for in that year the cruel epidemic of Barcelona was not the only one; all the southern extremity of Andalusia was infected, and was evidently so by the fatal convoy which departed from Havanna." Dr. F. C. CAIZ-
ERGUES, who was sent to Spain as one of a commission by the French Government in the year 1800 for the purpose of investigating the character of the Yellow Fever, which ravaged Andalusia during that year, is decidedly of opinion that the disease was highly contagious, and that it was imported into Cadiz by a

Corvette from Havanna, the crew of which, had lost nine men during the voyage, of that disease. A few days after the arrival of this vessel in the bay of Cadiz, the disease made its appearance among those persons who had been in communication with the persons, and effects belonging to the Corvette. It first commenced in the quarter of Saint Marie, then spread to the neighboring quarters, and finally to the whole city. From Cadiz the disease was carried directly to Seville by the Guadalquiver. Arrived at Seville the disease was confined for some days to one of the Faubourgs called Triana, from whence it spread by degrees to the whole city as at Cadiz.

The Emigrations from Cadiz and Seville carried the Yellow Fever to Xeres de la Frontera, to San Lucar to Carmona, to Carolina, to Louisiana, to Cordoue, and nearly the whole of Andalusia, from whence it would probably have extended to the whole of Spain, had not precautions been taken to confine it to this province.

We here close our extracts concerning the Yellow Fever in SPAIN. Our translations from the French, have been made as literal, as possible, it has been our aim, to convey the exact meaning of the authors, rather than to improve the style, or diction.*

Next in order, we proceed to offer some observa-

* We beg leave here, to call the attention of the reader to the facts hereafter recorded, to prove that the Yellow Fever was introduced into Saint Augustine East Florida in 1821. A remarkable coincidence certainly, that in the same year, from the same place, and in the same month, the same disease should have been transmitted from Havanna to Barcelona in Spain, and St. Augustine in Florida.

tions on the transmissibility of the Yellow Fever in AFRICA, as related by WM. FERGUSON Esq, *Surgeon in the Royal African Corps*.* By his statement, it would appear, that in that region the disease can be traced to *one source*, that is *Sierra Leone*, and that in all other settlements, where it has prevailed, whether English or French, it was distinctly ascertained that it came from that place.

“The susceptibility of the Yellow fever of being conveyed from one person to another, and from place to place, by means of the effluvium arising from the bodies of the sick, is a question which has of late years been occasionally agitated in your own and in other periodicals: the bulk of evidence and of authority appear to be ranged on the negative, although the affirmative side of the question has not been without its supporters.

The great magnitude and importance of the question, as well in its scientific as in its political bearing, calls loudly on every one who has had an opportunity of observing the progress of the disease, to contribute something to aid in dispelling the doubt and uncertainty which yet surround it, however obscure the individual, and however humble the contribution. Having had an opportunity of observing the progress of the disease at Sierra Leone on three different occasions, I therefore venture to submit my mite for consideration.

European residents have been many years settled at each of the following places along the coast of Western Africa, viz.—

* London Medical Gazette, for the month of August 1839 page 838.

| Placo. | By whom inhabited. | Latitude. | Longitude. |
|---------------------------|-----------------------------|-----------|------------|
| River Senegal : : : | French | 16o N. | 16o W. |
| Island of Goree : : : | French | 14 N. | 17 |
| River Gambia : : : | English | 13 N. | 16 |
| Cackeo : : : | Portuguese | 12 10 | 16 23 |
| Island of Bissao : : : | Portuguese | 11 51 | 15 37 |
| Rio Nuez : : : | English, French, Portuguese | 10 36 | 14 42 |
| Rio Pongo : : : | English, French, Americans | 10 7 | 13 58 |
| Sierra Leone : : : | English | 8 30 | 13 -- |
| Accra : : : | English, Dutch, Danes | 5 32 | -- 13 |
| Anamaboe : : : | English | 5 10 | 1 7 |
| St. George Del Mina: : : | Dutch | 5 5 | 1 22 |
| Island of Ascension : : : | English | 7 54 | 14 26 |

Of the above named places epidemic yellow fever has appeared in the Island of Goree once (1837,) in the river Gambia once (1837,) at Sierra Leone four times (1823, 1829, and twice in 1837,) at the Island of Ascension twice (1823, 1838.)

The disease is totally unknown, and has, I believe, never appeared at any of the other stations above named, and several of these have been colonized by Europeans one and two hundred years.

It is by no means a comfortable reflection to those whose lot is cast in such a land, that they incur a constant liability to such irruptions of disease as that which lately desolated Sierra Leone, against which neither prudence nor great care are of any avail as a safeguard: hence it is not to be wondered at, that, on former occasions of the epidemic irruption of yellow fever at Sierra Leone, there were many persons who sought out with great diligence every circumstance tending to show that the disease was not a sporadic, but an imported one. The evidence in proof of an object so desirable entirely failed; and it is now, I believe, admitted by all classes at Sierra Leone, that on every occasion of its appearance there, it has been the undoubted product of the colony itself.

But while it appears thus clear at Sierra Leone the disease has never been an imported one, there are, on the other hand, facts sufficiently numerous and cogent to encourage a rather confident opinion, that, at every other part of this station where it has appeared, it has on every such occasion been of imported, not of sporadic origin.

Before going into details, it may be here stated generally, that wherever the disease has appeared on the Western African station, at places other than at Sierra Leone, such appearance has on every such occasion been preceded, within a very short time, by the arrival of a vessel having the disease on board, and the actual disembarkation of the sick at that place; and that the disease has never appeared at any part of the station, other than Sierra Leone, excepting after such arrival and disembarkation of persons laboring under it.

Though the observations which I am about to adduce on this much controverted matter are at variance with the opinions entertained by many persons whom I am bound to regard with much professional respect, yet I see nothing which ought to deter me from an honest, and I hope not a dictatorial or presumptuous, statement of my own experience: to this I will add the information which I have derived from sources worthy of credit, and the conclusions legitimately deduced from our united observations.

To begin with the Island of Ascension. It appears as stated above, that epidemic yellow fever has prevailed there twice, viz., in 1823 and in 1838. With respect to its appearance there 1823, it appears by the report of Dr. WM. BARRY, then staff-surgeon, that

yellow fever broke out at Sierra Leone in December 1822, and prevailed, with more or less of severity, during the ensuing six months.

The Bann sloop of War arrived at Sierra Leone (it does not appear when,) and departed on the 27th March, "with three fever cases on board." Shortly after her departure, the fever cases accumulated so rapidly, that, instead of proceeding to the Island of St. Thomas, as was originally intended, she went to Ascension, and there debarked her sick.

The Bann had communicated with the Driver sloop of war at Ascension; with what consequences to the garrison there, and to the crew of the Driver, is shewn in the following extract of an official report of Assistant Surgeon Sinclair, then serving in the Bann:—"Between her arrival (at Sierra Leone) and the departure of the Bann for Ascension on the 27th March, several cases occurred, and the ship left Sierra Leone with three fever cases on board; in a very few days the fever attacked so many, that, instead of touching at St. Thomas, as was the original intention, for cutting wood, she was obliged to proceed to Ascension direct: she arrived there on the 25th April, but the fever had already committed such ravages on board, that scarcely a sufficient number of men were left to carry the sick on shore.

"The Driver arrived at Ascension on the 2d May, at that time very healthy, as well as the garrison on shore; but the Bann had already buried 32 men. All intercourse between the garrison and the sick tents of the Bann was forbidden, and as much as possible between the men of the Bann and those of the Driver.

"In a few days an Admiralty clerk belonging to the

Driver, sent on board the Bann to assist at a survey, and Capt. SAWMAREZ and his servant, sent to join the Bann, were all seized with fever. About the same time the fever made its appearance among the garrison ashore, in the family of a soldier's wife, who had been washing for one of the Bann: it first seized a boy, and then the woman herself, and in a few days four men belonging to the Garrison were attacked. Of the crew of the Bann, consisting of about 130, not so many as ten escaped fever, and 38 died; and of the Island of Ascension, the garrison consisting of 36 souls, five only escaped fever, and 17 died; and of about eight from the Driver, who were exposed to the contagion, four were seized, and three died."

The disease did not again appear at the Island of Ascension until 1838. My information is not sufficiently precise as to the date of its breaking out: however, the events by which that irruption was preceded have been sufficiently ascertained.

H. M. brigantine Forester arrived at Sierra Leone from England on or about the 5th December, 1837, and remained there four or five days, a time when epidemic yellow fever prevailed extensively in the harbour; the disease broke out among the Forester's crew a few days after she left Sierra Leone, on which she proceeded to the Island of Ascension. Lieutenant ROSENBERG (the commander) and several of the crew died before the vessel reached that place.

On her arrival there the sick were disembarked at Comfort Core, a place variously reported to me as being from one to three miles from the barracks, where the garrison is quartered. A rigid quarantine was established on the sick at Comfort Core.

The wearing apparel of the deceased commander, Lieutenant Rosenberg, was, I have been told, taken on shore, and there sold by public auction in the garrison,—the clothes, however, had been previously well and thoroughly washed on board. The disease broke out in the garrison about four weeks after the Forrester's arrival, and proved fatal to the commandant, a medical officer, and many of the marines. I regret that dates and numbers are wanting in this statement; the correctness of the main fact may, however, be confidently relied on, viz. that the disease on this, as on the former occasion, did not appear among the garrison at Ascension until after the arrival of a sickly ship, and the actual debarkation on the island of persons labouring under the disease.

These two are, I believe, the only occasions on which the disease has appeared at Ascension; they are also, I believe, the only occasions on which persons labouring under the disease have been landed there.

With respect to its mode of introduction at the Gambia

H. M. brig Curlew having been appointed to cruise on the windward part of this station, was several times in the harbour of Freetown, Sierra Leone, in May 1837, a time when epidemic yellow fever prevailed there; she left Sierra Leone to proceed to Gambia about the middle of May, and in a few days thereafter, while on the passage, the disease broke out among the crew. She arrived at Bathurst, on the Gambia, on the 4th of June, and Mr. Tebbs, the Colonial Surgeon, who was at that time also in medical charge of the troops, had the sick all removed from the vessel, and taken, not to the hospital, but to his own house, the

ground floor of which he had fitted up as an hospital for merchant seamen. Fifteen of the crew died.

Mr. Tebbs, who is reported to have been most diligent in his attendance on the sick, was laid up with the disease on the 17th, and died on the 20th June. A European boy, who had assisted Mr. Tebbs some years as a dispenser of medicines, and whose conduct is also spoken of in terms of high praise, followed his master to the grave in a few days, having been cut off by the same disease. Thirty-three days after this disease appeared in the house next to that of Mr. Tebbs on one side, and immediately thereafter in the other house next to that of Mr. Tebbs on the other side: it then followed an eccentric course over the town, and carried off more than one half of the European population.

The Island of St. Mary, in the River Gambia, has been colonized by Europeans twenty-two years. I have conversed there with several intelligent Europeans who have resided either at Gambia, Senegal, or Goree, uninterruptedly, upwards of thirty years, and by them I am assured that they never either witnessed or heard of the disease at Gambia until the period of the Curlew's arrival there.

The total absence of any mention of the disease in the army medical returns or reports from that part of the station serves to corroborate these statements.

It is clear, then, that at the Gambia, as at the Island of Ascension, epidemic yellow fever has never appeared but within a short time after the arrival and debarkation at the settlement of persons labouring under the disease, and that this was the only occasion on which

persons labouring under the disease have been landed here.

Epidemic yellow fever having, as above stated, appeared at the British settlement in the River Gambia, and having for some time successively carried off every one of whom it attacked, great consternation and alarm were in consequence excited, and several persons who had it in their power to do so, departed from the place.

Mr. Heddle, a respectable merchant of Bathurst, was among those who migrated. He left Bathurst for the Island of Goree on the 9th of August, accompanied by Mr. Stubbs, (an English gentleman) and Mons. Imbert, a resident of Goree, all in good health: the vessel arrived at Goree on the 12th.

Mons. Imbert was attacked with fever on the passage, and was landed in that state at Goree on the 12th; he was taken to his mother's house, and by her he was attended in the most assiduous and affectionate manner until he died. The separation of mother and son was, however, of short duration; for, the same day on which Mons. Imbert died, his mother was attacked with fever of a similar description, of which she died in four days.

Meantime Mr. Stubbs, the other passenger, was attacked with fever on the 12th (the day of arrival at Goree,) and died on the 16th.

Mr. Forster, a respectable merchant of Bathurst, left Gambia for Goree on the 17th of August, accompanied by Mr. A. Hunter, the Colonial Secretary. Mr. Hunter was attacked with fever on the 19th, which terminated in "black vomit" and death, at Goree, on the 21st.

Between three and four weeks after the occurrences herein detailed, epidemic yellow fever broke out at Goree, and carried off a vast number of the population.

Goree has been colonized by Europeans upwards of 90 years and it does not appear, either from written record or oral tradition, that the island was ever visited by yellow fever before.

It is hence as clear as any available evidence can make it, that, like the Island of Ascension and the British settlement on the River Gambia, the Island of Goree has only been visited by epidemic yellow fever on occasion of the arrival and debarkation there of persons labouring under the disease.

The negative evidence afforded by the progress of the disease on this station appears to lead to conclusions precisely similar to those deducible from the positive evidence.

To begin again with the Island of Ascension. It has been shewn that epidemic yellow fever broke out at this place in 1823, and again in 1838, on each occasion shortly after the arrival and debarkation there of persons labouring under the disease. On each of those occasions (if the views herein developed are correct) the disease was conveyed to Ascension from Sierra Leone, but the disease also prevailed epidemically at Sierra Leone in 1829, on which occasion, although several vessels of the squadron carried it away from that place, it does not appear that in that year any person labouring under it was disembarked on the island. In that year the island wholly escaped its ravages.

The fortresses on the Gold Coast have been colonized, I believe, since the middle of the 17th century: it

does not appear that epidemic yellow fever has ever been known there, neither does it appear that persons labouring under the disease have ever been landed there.

The several places at which Europeans reside betwixt Sierra Leone and the River Gambia (some of which, such as the Island of Bissao, have been colonized upwards of two hundred years,) have never, so far as I can learn, been visited by yellow fever.

I conversed on this subject at the island of Bissao with several of the oldest and most intelligent Portuguese residents, and was assured that neither while the disease prevailed at Sierra Leone in 1823, 1829, 1837, or 1838, nor on any other occasion, has it ever appeared at that island.

It is, I think, difficult to account for the total exemption from the disease enjoyed by those places, and its appearance at Gambia and Goree, on any other supposition than this, that those intervening places have never been visited by persons labouring under it.

Ascension, on the one hand, and Gambia and Goree on the other, are the extremities of lines radiating from a centre at Sierra Leone; and were the epidemic appearance of the disease at these extremes to be accounted for by the influence of a generally pervading atmospherical cause, wherein lies the cause of exemption at the numerous intervening stations? and by what means did the disease at once jump from the centre to the circumference?

The connecting links in the chain, from the nucleus of the disease at Sierra Leone to its development at Ascension, Gambia, and Goree, appear to me to have

been on every occasion sufficiently obvious, continuous, and unbroken, to render the other mode of accounting for its appearance at those places exceedingly probable, and in the present undecided state of positive knowledge on the subject, that which is least beset with difficulties.

The disease, as has been shown, having been conveyed from Sierra Leone to Gambia, and thence to Goree, occasioned the greatest alarm at the French settlement of Fort St. Louis, on the Senegal, the authorities there acting on the supposition that both at Gambia and Goree the disease had been imported, established a rigid system of exclusion on all vessels from either of those places so long as the epidemic should continue.

The settlement on the Senegal was not visited by the epidemic, neither has that settlement, so far as I can learn, ever been visited by persons labouring under the disease.

It may be considered necessary that some proof should be offered as to the perfect identity of the disease stated to have at times prevailed at the different places above mentioned, and to have been conveyed from one place to another.

With the means of information which I possess, it may be difficult to accomplish this, otherwise than by the evidence afforded by the occurrence of the symptom called "black vomit." This symptom is by no means invariably developed in every case—not even in such cases as terminate fatally—but whenever on this station yellow fever has prevailed in a district, the occurrence of that symptom has been sufficiently frequent to stamp a character on the epidemic not easily to be

mistaken—and that symptom was of very frequent occurrence in each of the several epidemics stated above to have been identical with the parent yellow fever of Sierra Leone.

I must in candour state, that the views adduced in this paper have been dissented from by several of my professional friends of the sister service, now or lately serving on this station, while others have agreed with me.

It has been stated to me that the last irruption of epidemic fever at Ascension (1838) was caused by an extraordinary accumulation of mud and filth in a pit, after an unusually heavy fall of rain. Without questioning the efficacy or the competency of such a cause, I may merely observe, that it is somewhat singular that the power of the mud-pit to generate epidemic yellow fever should have remained dormant until after the actual importation into the island of that disease by the sailors of the *Forester* ; but granting that the pit full of mud and filth at Ascension was the real cause of the late epidemic at that place, the origin of the epidemics at Gambia and Goree still remain to be accounted for, if that which I have assumed as the correct, or at all events the most probable mode of accounting for their origin, is considered mistaken.

It will be observed that at Ascension, at Goree, and at Gambia, a period of three or four weeks always elapsed betwixt the landing of the sick and the epidemic outbreaking of the disease among the population,—a degree of uniformity worthy of remark, whether the conclusions at which I have arrived be mistaken or not.”

Hitherto, we have availed ourselves of the experi-

ence of writers, on the other side of the Atlantic—of men to whom no sinister or self-interested motive could be attributed—of men of the greatest respectability and talent, as evidenced by the fact of their being selected by their respective governments, to fill high and honorable stations. They were not influenced by the fear of losing favor with the *mercantile interests*, as they did not depend upon their patronage and support for their bread. They were not Physicians of Lazarettos, nor members of Boards of Health, interested in concealing the true origin of the disease, because, if the fact of its introduction could be established, the blame of its occurrence would attach to their own negligence. Is not the unbiassed testimony of *one* such witness, worth more than that of *twenty* interested men, who feed upon popular favor?

We next turn our attention to the writers of our own country, and here we will find abundant testimony to justify the opinions which we have formed.

Dr. Lining* describes the Yellow Fever of Charleston, as being *introduced* into that City in 1732, 1739, 1745 and 1748, and remarks that although the infection was spread with great celerity through the town, it did not extend to the country, even when carried there by persons who had received the seeds of the disease in town.

The Yellow Fever with which the City of New York was visited in 1791, and which was rendered memorable by the death of General Malcolm, a most estimable and respectable citizen, who was the first

* Edin : Physical and Literary Essays, Vol. 2, p. 408, 427.

victim to the epidemic of that season, is recorded by Dr. Jonas Addoms.*

“About the middle of August, 1791, a *contagious* fever appeared in the city of New York, which first discovered itself near Peck Slip, a part of the city thickly inhabited, its houses generally small, and badly ventilated; many of the inhabitants were in indigent circumstances, which is a frequent cause of the want of cleanliness. Here it raged a considerable length of time; it then began to spread, as some attendants on the sick became infected who lived in other neighborhoods. By this means it was carried to other families, and most generally could be traced to this source.—It likewise proved more particularly fatal near the place where it first appeared than in any other part. Thus at length it spread through the city, until about the middle of October, when the weather growing a little cooler, the disease greatly abated, and in a short time totally disappeared.”

The following remarks are from Dr. David Hosack:†

“In the Yellow Fever of 1793, which was *introduced* from the West Indies, it is conceded on all sides, that the disease made its first appearance in Water Street, and that all the cases were for two or three weeks traced to that particular spot.” It will be recollected that this fever was introduced by a large number of French refugees who fled from St. Domingo to escape a general massacre. M. Cary has published an interesting account of this Fever, its ravages, progress, etc. He

* Inaugural Dissertation on Yellow Fever, page 7.

† Hosack's Practice, page 201.

contends that it was first imported from the W. Indies and afterwards propagated by contagion.

The following is his account of the "*Origin of the Disorder*.* "This disorder has most unquestionably been imported from the West Indies. As yet however owing to various obvious reasons, it is difficult to fix, with absolute precision, on the vessel or vessels, (for it is very probable it came in several, from the different infected islands) by which it was introduced.— 'That it is an imported disorder, rests on the following reasons, each of which singly, renders the theory plausible, but all, collectively, establish it to the satisfaction of every candid and reasonable man.

1st. The Yellow Fever existed in several of the West India Islands a long time before its appearance here.† From which islands various vessels arrived here in July.

* Account of the Fever of 1793—page 68.

† *Extract from a London paper, of August 13, 1793.*

"The plague brought from Bulam, which made its appearance at Grenada, has spread most alarmly. Eighty persons died in one day at Grenada of this epidemic. The Hurricane months just coming on, are not likely to make it less violent in its effects."

["It appears by a subsequent paragraph in the same paper, that the disease was ascertained to be the yellow fever."]

Extract from the Courier, a London paper, of August 24.

"Before the fleet left Antigua, so great was the apprehension entertained there of the plague, that all vessels from Grenada, were obliged to perform quarantine; and all letters from the latter island were smoked at the former. The infection was reported to have reached Dominica."

Extract from the Observer, a London paper, of August 25.

"The plague, we are distressed to hear, has made its appearance in several of our West India Islands. At Grenada, and at Dominica, the symptoms are said to be highly alarming."

2d. Scarcely any precautions were used to guard against the disorder.

3d. A respectable citizen of Philadelphia, supercargo of one of our vessels, saw, in July, six or seven people sick of this fever on board a brig at Cape Francois bound for our port.

4th. A vessel from Cape Francois, which arrived here in July, lost several of her people with this fever, on her passage.

6th. A person from Cape Francois, died of this fever at Marcus Hook—and another at Chester.

7th. The vessels in which those persons arrived, and which were infected with the effluvia of the sick & dead, came freely to our wharves, and particularly to that very one where the disorder made its first appearance.

8th. Persons sick of the yellow fever have been landed in our city from vessels arrived from the West Indies.

9th. There is the strongest reason to believe, that the beds and bedding of the sick and dead were not destroyed, but, on the contrary, brought into our city.

10th. This disorder had every characteristic symptom that marked it on former occasions, when its importation was unquestioned.

Lastly, Of all reasons advanced to support the opinion of its having been generated here, the only one, that has even the appearance of plausibility, viz. the influence of a tropical season, such as we had last summer, is unanswerably refuted by the concurring

Extract from a Kingston paper, of October 12.

“The islands of Barbadoes and Dominica continue to be afflicted with a malignant fever: about 300 white inhabitants have perished in the former, and near 500 in the latter.”

testimony of Hillary, Lind, Lining, Warren, and Bruce, who, in the most unequivocal manner, have declared that it does not depend on the weather.

“It does not appear, from the most accurate observations of the variations of the weather, or any difference of the seasons, which I have been able to make for several years past, that this fever is *any way caused*, or much influenced by them; for I have seen it *at all times* and in *all seasons*, in the *coolest*, as well as in the hottest time of the year.”

“This fever *does not* seem to take its origin from *any particular constitution* of the weather, independent of infectious miasmata, as *Dr. Warren has formerly well observed*; for within these twenty-five years, it has been only four times epidemical in this town, namely in the autumns of the years 1732, '39, '45, and '48, though none of those years, (excepting that of 1739, whose summer and autumn were remarkably rainy) were either warmer or more rainy, (and some of them less so) than the summers and autumns were in several other years, in which we had not one instance of any one seized with this fever; which is contrary to what would have happened, *if particular constitutions of the weather, were productive of it*, without infectious miasmata.”

“In *omni anni tempestate*, sese effert hic morbus; symptomata autem graviora observantur, ubi calor magnus cum multa humiditate conjungitur.”

At page 201, Dr. Hosack states—“Upon another occasion I shall make public the evidence in my possession, indisputably proving the *importation* of the Yellow Fever experienced by New York in 1795, from Port au Prince.

In 1798 the Yellow Fever visited Philadelphia.—An interesting account of the disease of that year has been published by Dr. William Currie, S. C. M. P. from which we take an extract, showing that in this instance occurrences took place similar to what happened in Spain, in regard to the transmission of the disease from the large Seaports to small towns situated interiorly.*

“Having in the preceding Memoirs, noted the rise, progress, and fatal effects of the fever, lately prevalent in this city, and other parts of this country, (the contagious nature of which is acknowledged by all, excepting a few persons that are distinguished for nothing but the singularity of their opinions, and the pertinacious adherence to a tenet, which both by the illustrations of reasoning and the common sense of their fellow citizens, has been declared absurd and untenable.) I shall now proceed to state such evidence as has come to my knowledge, respecting the origin of the disease, the certainty of which is of the highest importance to the future interest and prosperity of this country in general, and to Philadelphia in particular.

Certain circumstances having given rise to suspicion that the contagion which gave origin to the disease was imported in the ship *Deborah*, which arrived at Philadelphia, from *Jeremie*, and anchored near Race street wharf, on the 18th July. I made every enquiry in my power into the subject with a view of ascertaining the truth.

The death of the Marquis de Rouvray, immediately after her arrival—of a boy that belonged to her a few

* Memoirs of the Yellow Fever of 1798—page 130.

days after,—of a labouring man that had worked on board her—and of Alexander Phillips, who had been down to her in a boat, while she was performing quarantine, and who died on the 5th of August.—The sickness of a carpenter on the 26th of July at Achison Thompson's next door to Phillip's, who had been on board the Deborah while unshipping her cargo;—the sudden death of a sailor in the same house on the 28th of July, and the numerous cases in the neighborhood of Phillip's and Thompson's a few days after, not only increased, but directed the suspicions of all that were acquainted with these circumstances, to the ship Deborah.

It appears from facts collected by Dr. Daniel De Beneville, and communicated in writing to Dr. Griffiths, that the first person that had yellow fever in Kensington, (to which place the Deborah had removed for the purpose of undergoing repairs on the 28th of July,) was a lad of the name of Joseph Streeton, that had been on board of her while she lay in the city.—This lad was taken sick on the 29th, of July and died on the 3d of August.

James Porter, apprentice to Joseph Grice, ship carpenter, next door to Streeton's, was taken with the fever on the 1st of August, and died on the 12th.

James Ashmore, an apprentice to Wm. Yard, ship carpenter, who had worked on board the Deborah, while she lay in the city, was attacked with the fever, on the 2d of August, and died on the 15th.

James Kerr, George Adams, and one Simmons, all apprentices to Wm. Yard, worked on board the Deborah, and were all taken sick a few days after James Ashmore, and all recovered.

Two labouring men, who worked on board the Deborah, were taken sick on the 3d of August, one died, the other recovered. Samuel Baker, Dr. De Beneville, his wife and house keeper, who resided near the wharf where the Deborah lay, were all attacked with the fever, in the course of a week after her arrival at Kensington; And before the middle of August the whole neighborhood was infected.

That the Deborah was an infected vessel, appears evident, from the testimony of her mate, Mr. John Lewis, the carpenter that was with her during the whole voyage, the cook, several seamen, and a passenger of the name of Dickison—all whom agree, that she lost seven persons with a fever, on her passage from Jeremie, to Philadelphia, and five of her crew, while in the port of Jeremie.—Mr. Lewis the mate of the Deborah, informed me in presence of two witnesses that the Deborah had been employed as a transport for the British troops at St. Domingo, for some time previous to her taking in her cargo, at Jeremie.

Dr. Wistar, was informed by the cooper; of the deaths on board, and the carpenter, John Bodin's deposition was taken by the Mayor of Burlington.

Captain Yard, himself sometime after his arrival in Philadelphia, in conversation with a gentleman whose testimony may be relied on acknowledged that while the Deborah lay at Jeremie, a very mortal disease was prevalent there, which the natives called the Malad, de Siam, of which the Captain, and the chief part of the crew of an English ship from Liverpool, died, and the rest were so terrified that they deserted the ship.

When the Deborah arrived at the Health Office

near the Fort, with about an hundred persons on board including passengers,—two of the seamen who appeared to be in a convalescent state, were taken to the Marine Hospital, and a black woman.

These men Mr. Lewis says, were in the city before the ship.

Atchison Thompson and Mr. Doyle, neighbors to Phillips when he was alive, solemnly declare that Phillips brought a man belonging to the Deborah to his house, before the arrival of the ship.*

The size and martial appearance of the Deborah, (for she carried several guns) led a number of young men and boys to visit her ; among others, was a lad of the name of James Wright, and a young man belonging to Mr. Clemens. The former lived in Water above Chesnut Street, the latter in Third near Walnut Street—one of these was attacked the 30th, the other 31st July. The latter died on the 6th day from the attack, the former recovered.

As the disease appeared about this time in different parts of the city, which had been uncommonly healthy all the preceding season, it is probable that others suffered from the like inconsiderate curiosity.

From these as from a focus, it gradually diverged over the whole city.

A brig from Jamaica, with Coffee, some of which was damaged, arrived at Mr. Ross' wharf, in the neigh-

* Dr. Griffiths prescribed for one of the crew of the Deborah at Phillip's while he lay ill who had taken lodgings there 24th July. The Physician of the Port informed the College of Physicians that one of the crew of the Deborrah died at the Marine Hospital ; and that two Pilots that conducted the Aerial and the Aurora, died there about the same time

borhood where the disease made its first and most formidable assault, on the 29th of July, but as the disease had made some progress before that date, there can be no room for suspecting that to have given origin to it. Besides there are no facts in proof of a fever of a contagious kind ever having been produced either by damaged vegetables or by the exhalations from bilge water, as I have sufficiently shewn in my *Observations on the Cause and Cure of Bilious Fevers*, published last year.

But that the contagion which gives rise to such a fever as the one under consideration, may be retained in an active state, in the clothing of those that have been sick or that have died of it, for several weeks if excluded from fresh air, is well known to those conversant with medical history.

We are informed in the last edition of the works of the late learned Dr. Mead, that a sack of infected cotton imported into Bermudas in the year 1695, gave origin to a fever so malignant, that the living scarcely sufficed to bury the dead. It is also recorded, the imprisoned seeds of a pestilential fever, which depopulated Marseilles in the year 1720, made their escape from a sailor's bundle, lately arrived from the Levant.

The importation of the contagion which gave rise to the plague in London in the year 1665, and almost depopulated that city in the course of the summer and autumnal months, is a fact too notorious to expatiate upon. A similar fever, which destroyed 80,000 of the inhabitants of Moscow and the adjacent villages in 1771, was introduced by Turkish prisoners, as appears from the account of Mertins, one of the physicians appointed by the empress to attend the infected.— This fever, like the one with which we have been vi-

sited, yielded to the power of frost. We have the authority of the experienced Lind, that the yellow fever was introduced into Philadelphia in the year 1741 by a trunk of infected clothing received from Barbadoes; and of Dr. Lining, that every time it had appeared in Charleston, it had been traced to some person or vessel recently arrived from the West Indies.

The yellow fever which prevailed in New Haven in the year 1794, was traced to imported contagion, as appears from the statement of Dr. Mouson, published in Webster's collection of papers on bilious fevers. For more examples of the same kind, I refer to a book which I published last year, entitled, *Observations on the Causes and Cure of Bilious Fevers.*"

The introduction of the disease into Chester, Marcus-Hook and Wilmington, soon after its appearance in Philadelphia, are additional proofs in support of the opinion that the late fever was derived from imported contagion.

An unanswerable argument that the fever did not originate from domestic causes, is afforded by the exemption of Baltimore, Georgetown, Alexandria, Norfolk, Wilmington, (N. C.) Charleston and Savannah.

The disease this year prevailed, and was attended with a degree of mortality unexampled in this country, (considering the comparative smallness of the number that remained within the sphere of the contagion) in all the commercial towns north of Baltimore; whereas all the commercial towns south of Baltimore have escaped, Petersburg excepted, and the disease was introduced into Petersburg by the ship Nestor from Philadelphia.

Is it possible to believe, that the late fever, (which

is considered by the advocates for its domestic origin, to be only a higher grade of common bilious fever which appears in low marshy countries every summer and autumn) could originate and become epidemic on the high, dry and sandy banks of Kensington? in the paved, clean and open streets of Philadelphia, where every wind that blows has a free course? on the high and gravelly hills of Wilmington? on the elevated shores of York, washed on either side by Ocean's briny waves? and not make its appearance on the flats of Baltimore, or the putrid fens of Charleston and Savannah, where bile flows in incessant streams; and where the debilitated inhabitants faint under the insufferable blaze of a vertical sun?

If the united opinion of a number of men of the first abilities and most extensive professional knowledge be of authority on the present interesting question, that of the College of Physicians, presented last year to the Legislature, ought to be admitted: The substance of which follows. The College is in possession of still stronger facts and documents in support of their opinion this year.

“The College is of opinion, that the yellow fever is derived from imported contagion. For this opinion they assign the following among other reasons; “The disease in question is essentially different from the fevers that occur in this climate, and which originate from domestic causes. It also differs essentially from them in the circumstance of being contagious; a bilious fever originating from domestic causes having never been to our knowledge contagious in this climate.”

And that the yellow fever, which has committed such deplorable ravages in different commercial cities

of these states, since the year 1793, was not derived from the exhalations of putrid vegetable substances, which occasion intermitting, remitting, or bilious fevers, but was of pestilential origin, is fully established by the facts published in the year 1795, by Dr. Chisholm, surgeon-general to the Ordinance in the West India Islands, to which valuable publication the reader is referred."

Dr. Sayres, in a letter from Marcus Hook reports the occurrence of the disease at that place, and attributes it to importation.*

"The first case of Yellow Fever which came under my notice in Marcus Hook, was on August the 2d 1798. This was a Shallop man, who came from Philadelphia, four days previous to the attack of the fever; he died on the 6th day of the disease, with the highest symptoms of putrescency. The next five cases of disease, were persons, who were but a few days from Philadelphia, viz: from 2 to 8 days. The disease appeared to increase considerably in this place, and in Chester by the 20th of August. The symptoms on the first attack were strongly marked—and the proportionate number of deaths, were much increased by the first of September. The number of cases which came under my notice from the 2d day of August, until the 26th of October, was eighty-two—fifty-seven of these died.

The greater part of those who were lately from Philadelphia, died between the 2d and 6th day after their attack. The inhabitants of this place and Ches-

* Memoirs of the Yellow Fever of 1798—page 136.

ter, who had the disease, recovered in greater proportion.

The disease appeared in a number of cases evidently *communicated by contagion*—in some cases from the sick, and several cases from the bed linen, &c.”

The work which we have just quoted also contains letters from Drs. Tilton and Monro,* giving an account of the introduction of the same disease into Wilmington by persons coming from Philadelphia.

In 1798, New York was also visited by the Yellow Fever, during the months of August, September and October. Two thousand persons fell victims to the disease; at the end of this time a keen frost, put an almost instantaneous termination to its progress. The disease of that season first appeared at the Ship Yard in the neighborhood of New Slip, and as in former years was introduced from the West Indies.†

Drs. Miner and Tully, of Connecticut, have published an interesting work on Fevers. They give an account of the introduction of the Yellow Fever into the town of Chatham in the month of August 1796, by the Brig Polly, Russel Doan, master, arriving from Cape Saint Nicholas Mole, having lost one of her crew Mayhew Tupper of Yellow Fever on her passage and prior to her arrival.‡

They also relate in 1820, a similar introduction of the disease into Middletown by the Sch'r Milo.§

* Page 138.

† See statement of facts on the subject by the Rev'd. Dr. McKnight, in the American Med. and Phil: Reg: Vol. 3.

‡ Miner and Tully on Fevers, page 359.

§ Page 367.

We have already alluded to Dr. Hosack of New York, one of the ablest champions on our side of the question. He contends for the contingent contagiousness of Yellow Fever; that is say he believes that in order to favor the extension of the disease an impure state of the atmosphere must exist. In this respect however, the disease is analagous to the plague, dysentary and typhus, all of which require an impure state of the air to diffuse and multiply them.

“Although the diseases which have been noticed are rarely communicable in pure air, and are not generally contagious in the country, it is not less true that in some few instances it appears either that the virus, as secreted from the diseased body, is alone insufficient in quantity, or possesses a sufficient degree of virulence, to reproduce such diseases; or, that by means of the impurities collected about the diseased individual, occasioned by inattention to cleanliness and change of clothing, the retention of his excretions, or the confined air of his apartment, the virus itself becomes multiplied, and thereby the means of communicating the disease from one to another are in some degree increased: for it is a fact not to be questioned, that instances of Yellow Fever, as well as of the plague, dysentary and typhus fever, have occasionally been infectious even in the more pure air of the country, though it must be acknowledged that such cases are of rare occurrence. It is observed by Dr. Rush, whose records of the several visitations of the Yellow Fever in the city of Philadelphin will be lasting monuments of the facts which they contain, as well as the eloquent and impressive manner in which they are related, “that out of upwards of one thousand persons who have

carried this disease into the country from our cities, there are not more than three or four instances, to be met with of its having been propagated by contagion.”* Such instances, however, have occurred in New-Hampshire, as related by Dr. Spalding;† in Connecticut, as stated by Dr. William Moore of this City;‡ on Staten Island, as recorded by Dr R. C. Moore;§ now the venerable Bishop of Virginia; at Huntington on Long Island, in 1795 and 1798;|| at Germantown in the vicinity of Philadelphia, as related by Dr. Wistar;¶. But these very exceptions if they can with propriety be denominated exceptions, manifestly prove the specific character of those diseases, and that they are propagated by a specific secretion peculiar to each disease, whether it be plague, dysentary or Yellow Fever. Indeed to use the emphatic expression of the Edinburgh Reviewers on this subject, “it would be not at all more absurd to deny the existence of the fever altogether, than to maintain that it is not propagated by contagion.”** But in the language which has been applied by Dr. Mead to the Plague, we may say of all the diseases of the this class, “that a corrupted state of the air is without doubt, necessary to give these contagious atoms their full force.††

If it were necessary, I might go on to cite every return of the Yellow Fever with which the United

* Observations on the origin of Yellow Fever of 1799, p. 12.

† Med. Repos. Vol. 3, page 8.

‡ Addom's Dissertation, page 7 of Amer : Med : & Phil : Reg : Vol. 2, page 177.

§ Ibid, Vol. 2, page 22. || Ibid, Vol. 2, page 191.

¶ Additional Facts etc. by College of Physicians, Phil'a. p. 30.

** Edinburg Review, Vol. 1, page 246.

†† Mead's Medical Works.

States have been visited, to show that the progress of the pestilential poison has ever been commensurate with the impurities of the atmosphere, and that, when sufficiently diluted with pure air, it ceases to propagate itself.

It is probably owing to this impure condition of the atmosphere that the various fevers, and the greater mortality of diseases in general, are to be ascribed, which physicians have generally observed to precede the appearance of pestilential disorders, and to announce their approach, and which have led many to conclude that the pestilence itself was thus engendered by local circumstances, and not imported,

Facts of this nature have served to mislead the editors of the Medical Repository, and many other late writers, who thus confound the exciting and predisposing causes of disease; who do not discriminate between the inflammable materials, and the spark which lights the flame, but have identified the local circumstances which have served to diffuse the poison of Yellow Fever, with the peculiar virus itself by which that disease has been introduced.

The same local circumstances, I believe will go far in accounting for the "pestilential state of the air" the "secret constitution of atmosphere," so often recorded by writers on epidemics; at the same time that they teach us, that the diseases now under consideration are only epidemic in as far as the vitiated state of the air is itself epidemic.

I however wish it to be understood, that I do not exclude the influence of bodily predisposition, the passions of the mind, and many other circumstances, in aiding the propagation of pestilential diseases."

We present one more extract from Dr. Hosack, it is in a letter to P. S. Townsend M. D.* in which he explains more fully his views.

“But, again, I wish you to remember the facts I have also adduced to show, that in some cases, even in the pure air of the country, such is the specific character of yellow fever, and such is its occasional virulence, that where the greatest attention has been given to the means of disarming it of its contagious nature, it has still been communicated in succession to the different members of the same family into which the first case had been introduced, and indeed, to others who may have visited the infected dwelling. I have already published† numerous facts in illustration of this truth, and many others are in my possession of a similar nature, which irresistably establish the peculiar features of the disease, and its occasional communication by contagion. All the *negatives* that have been brought forward by the M’Leans, the Bancrofts, &c., or that can be adduced, can never destroy or impair the *affirmative truths* that have been established by the facts referred to, and others which, within a few years, have been promulgated by the College of Physicians of Philadelphia, by Sir Gilbert Blane,‡ Sir James Fellowes, Dr.

* Result of observations, made upon Black Vomit or Yellow Fever—By P. S. Townsend M. D.—page 58.

† See Medical Essays, vol. 1. Appendix to Thomas’ Practice—American Medical and Philosophical Register. “Discourse on Contagion.”

‡ See his Appendix to the Diseases of Seamen, “Med. Logic,” and his recent account of the introduction of yellow fever into the island of Ascension, by the sloop of War Bann, from the coast of Africa, “the circumstances of which, says the reviewer, leave no

Pym, Sir Joseph Gilpin, Bally, Pariset Gerardin, Audoard, and a host of others. We need not, therefore, resort to the peculiar views taken on this subject by the late Dr. Chisholm, Dr. William Stevens, of St. Croix, and others, who consider the Bulam fever of the Hankey, in 1793, as a *nova pestis*, or a specific form of yellow fever, as distinct from the ordinary type of the disease as it annually appears in the West Indies.—The crowded population of the Hankey, on the coast of Africa, and of other ships, by which it has occasionally been engendered in the tropics, and has diffused itself in the West Indian Islands in different years, and has been thence communicated by commerce into the different cities of Europe, and of North and South America, affords a ready, and to my mind, a satisfactory solution of the peculiarities of virulence referred to, without resorting to the generation of a new, peculiar, and distinct virus, as the gentlemen referred to contend for. Such, too, is the general impression made upon the public mind in this country, that notwithstanding the unbelief expressed by many physicians of the non-contagious character of yellow fever, should the disease hereafter be again introduced among us, nothing would induce our citizens to remain at their homes; indeed, flight would be the wise resort of all who possess the means of abandoning the seat of the disease. Indeed, I have long known, that even among the *physicians*, the most sturdy of the non-contagionists who

doubt of the infectious nature of yellow fever, and of the expediency of taking precautions against its importation, and ought to serve as a warning to prevent the recurrence of calamities, which, in this, and other instances, are imputable to a neglect of due precaution.

have written and published most upon this subject, have all been among the first to fly from the city during such visitations of this disease.

But I rejoice to tell you, that the belief I have expressed above, is now entertained, and has been frankly and recently acknowledged, by some of the ablest champions that have contended for the contrary doctrine. Some facts that have recently occurred, but which have not been communicated to the public, have been the means of effecting this change of opinion among some of the most eminent members of our profession, and who hitherto have held a distinguished rank among those who have been opposed to the specific character and contagiousness of yellow fever. I trust they will themselves *publicly* announce, with the same candor that has led them *privately* to express this new conviction, and the facts which have effected the change in their views on this important subject.

The two forms in which yellow fever appears, as occurring in the insulated individual, or in a crowded population,—in other words, as *sporadic* or *endemic*,—leads us to divide the disease into the two species of—1st, *Simple* or inflammatory yellow fever; and 2dly, 'The *malignant* or contagious form of the same disease.

The former, as it ordinarily occurs in the stranger arriving from a northern latitude in the tropics, assuming an inflammatory character; the second, as occurring in the endemic form, as described by Dr. Chisholm and others, in which it exhibits a more aggravated or typhoid type, and becomes, by the excretions of the system, readily communicated from individual to individual. This view of the two forms which the same disease assumes, depending upon the circumstances

under which it occurs, leads to a corresponding difference in their mode of treatment, and readily accounts for the various results that have followed the modes of treatment pursued by different writers ; e. g. it satisfactorily accounts for the benefits that have been derived from depletion by the lancet, and other means of evacuation that have been directed in one form of the disease ;* at the same time it displays the deadly effects of the same practice when pursued in the endemic or typhoid character of the yellow fever, as propagated by contagion. We also, at the same time, readily explain the beneficial operation of the mild aperient and alternative means that have been so successfully employed in the more malignant type which the disease has assumed, as it has been introduced at different periods into the West India Islands, into the South of Europe, and into the cities of the United States ; in Charleston in 1732, 1739, 1745, 1748, as described by Dr. Lining, and more recently in New York, Philadelphia, &c, in 1762, 1791, 1793, 1794, 1795, 1796, 1797, 1798, 1803, 1805, 1819, 1822, &c. &c.

This doctrine, too, I believe, will be found more effectually to reconcile the various and opposite opinions that have divided the profession with regard to the peculiar character of the yellow fever, its occasional communication by contagion, and the several modes of treatment that have been pursued, than any other that has been promulgated."

Our next authority is Dr. P. S Townsend of New York, who has written several very valuable essays on

* See Dr. Mosely on the Diseases of the Tropics.

Yellow Fever, and who has seen the disease in New York and Havanna, and who considers it contagious.

“It is the concurrence, therefore, of a *northern constitution and a tropical heat*, two conditions which are incompatible, and cannot co-exist together, which produces the disease termed yellow fever, or black vomit. The proximity of the tropical portions of Africa and America to the commercial nations occupying the temperate latitudes of Europe and the U. States, is the cause why yellow fever is of so much more frequent occurrence in those countries than in the populous regions of India; because the length of the voyage from Europe or the United States to the East Indies is such, that the constitution becomes gradually divested of its northern peculiarities, and gradually habituated and assimilated to the climate of the torrid zone—which change, when suddenly forced into operation, as it is, for example, in persons arriving from the northern parts of Europe and the United States upon the coast of Africa and the West Indies, creates what has been denominated yellow fever, or black vomit; which disease seems in reality to be, in conformity to the opinion of the older writers, a fermentation, dissolution, or disintegration of the blood into a more limpid and attenuated fluid, as is particularly manifest from the facility with which it passes through vessels which before it could not enter, (as in the adnata, or white part of the eye,) from its being transmitted even through the pores of the skin, (of which cases have occurred,) and from the examination of the matter of the black vomit itself.

2. This disease, in new comers in the tropics, is most usually excited into action by exposure to the sun,

fatigue, spiritous drinks, &c.; and it may occur sporadically—that is, individual and insulated cases,—in any part of the tropics, in the interior as well as upon the sea coast, and also on ship board, out of sight of land, and remote from its influence.

3. But when yellow fever is produced in an atmosphere already impregnated by human effluvia, it assumes a more malignant character, and thus may be, and often is, propagated and reproduced by contagion—as in a vessel of war, and transports, at sea, or other vessels in which numbers are crowded together in a small space, and also in garrisons, hospitals, &c. upon land. In hot climates, the yellow fever is less frequently contagious, from the practice of constant ventilation, and from the contagious matter being rarefied by the heat of the atmosphere, and thus rendered less noxious. A remarkable instance of the production of yellow fever in its *sporadic* form, and afterwards of its propagation by contagion, under what may be denominated its *epidemic* character, occurred in the American merchant ship Charles Henry, which left the port of Havana June 10th, and arrived at New York June 22d. This case, *some* of the particulars of which have doubtless already come under the knowledge of the Board of Health, is most particularly worthy of note, as it shows how totally independent the origin of the vomito is of the exhalations of vegetable putrefaction and marsh miasmata, which by many physicians, and particularly those of the United States, have been thought to be the source of it—which erroneous opinion has caused yellow fever to be confounded by such persons with intermittents and remittents, thereby leading to most mischievous and fatal consequences in the treatment

of the disease, and in the laws relating to the public health. There were about ten or twelve passengers occupying the cabin of this vessel, and the crew consisted of nearly the same number. Both crew and passengers left Havanna in perfect health, and had not, as far as we are informed, been exposed to any sources of contagion in the harbor. The first case was Mrs. Grassman, who fell sick *five* days after leaving the port. She was from the United States, and had been residing here, in good health, in the airy and elevated suburbs of Havanna, from whence she went on board the vessel. She died of yellow fever, and from this case the disease, in the course of the voyage, spread through the ship, proving *fatal* to two others of the cabin passengers, and to three or four of the crew. Parallel cases to that of the *Charles Henry* occurred about the same time in the American ship *Fama*, which sailed from Havanna for Russia the latter part of May, and in the American brig *Charlotte*, which left Havanna for the same destination in the early part of June. They left here in good health; the disease broke out at sea, spread by contagion, and proved fatal to several on board each vessel, obliging the ship to put into Boston, and the brig into Newport.

It may, perhaps, be said, that in the first cases of all these three vessels, the seeds of the yellow fever, (or rather, the predisposition to it,) were imbibed in the hot and confined harbour of Havanna, and would, had the persons remained there, have been kept dormant by the copious discharges from the skin; but that on the change to a cooler atmosphere at sea, the suppression of the perspiration, and the crowded, confined, and, therefore, unwholesome state of the air on board,

the morbid principle was put into motion, and the disease developed.

Whatever be the explanation of the origin, the propagation afterwards, by *contagion*, re-producing the same identical disease, with all its characteristic symptoms of black vomit, &c. is placed beyond the possibility of doubt or dispute.

These instances, like others of frequent occurrence the last few years, at New York, Norfolk, and other places in the United States, at Barcelona, in Spain, Marseilles, in France, &c. point out the importance of dispersion and pure air, and the extreme danger of a crowded and confined atmosphere, impregnated with human effluvia, whether at sea or upon land, as this is the chief medium through which yellow fever becomes contagious.

These facts also show the necessity of directing the operation of the quarantine system, not to the *animal* or *vegetable* filth on board of vessels, but especially in respect to the number of persons on board; and they also indicate the propriety of confining our quarantine regulations to *such vessels only* as arrive during the hot season from tropical latitudes. From whence it follows, that we ought to abrogate many of those embarrassing restrictions upon our commerce which have been introduced into our laws from misconceptions that have existed relative to the domestic origin of the disease, and the influence of animal or vegetable putrefaction."

At page 22 the same author remarks:

"Wherefore, as is well known to be the fact, the seeds of yellow fever, though they may germinate and become *sporadically* developed with more facility,

within inter-tropical countries, are seldom re-produced there by *contagion* in the desolating and frightful manner in which they thus become propagated in temperate latitudes.

A great and prolific *source of the mortality* of the disease within the tropics is its sporadic production, while in temperate latitudes, this mortality becomes augmented tenfold, from the facilities there afforded to its epidemic or contagious extension, chiefly arising as before said, from the greater predisposition there existing, not in the constitution of the atmosphere, but in the constitution of those who are the subjects of it.

Wherefore, it may be said that the pathology and etiology of the disease present themselves under two aspects :

1st. The predisposing causes in the hot atmosphere of the torrid zone, which induce its sporadic development.

2d. The predisposing causes in the constitution or organization of the human system itself, in temperate latitudes, which tend to its epidemic or contagious developement ; *the only form under which it appears there.*

With these guides before us, it is easy to explain many circumstances connected with the history of yellow fever, which have, to some, appeared quite mysterious and enigmatical. It is thus seen how this pestilence, when imported in the warm season into the southern parts of Europe, into cities crowded with a dense and compact mass of population, the corrupted atmosphere from the confined construction of the streets and buildings of those places becomes like so

much combustible matter, the vehicle which propagates with terrific rapidity the extension and multiplication of the disease, destroying, in its fatal march, within the space of a few months, thousands and tens of thousands of victims. It was scenes like these which brought home conviction to the comprehensive mind of the illustrious Humboldt, and made him confess, whatever his opinions might have previously been, that the devastating progress of the vomito, under such circumstances, clearly demonstrates that its propagation depended upon a contagious principle.

What is most remarkable in the history of yellow fever within the tropics, and what shows, also, the necessity of watching with minute attention and close discrimination, the phenomena of this disease, is the fact, that not only does the reduced temperature of elevated plateaus and mountainous regions, give, as it is very natural they should, a northern constitution to the inhabitants of such places, but even those who live in the interior of the West India Islands, in the pure country air upon the plantations, and where the elevation above the sea, and the range of the thermometer are very nearly the same as in the sea ports, (of Havannah, for example,) the inhabitants, notwithstanding, also acquire thereby, in some sort, the constitution of a northern organization, or at least, they never acquire that perfect acclimatization, or never reach that perfect immunity, which those do who reside in the hot and de-oxygenated atmosphere of populous towns and cities. Thus, as Humboldt (who I believe, was the first to notice this) says, the inhabitant of the whole plateau or elevated table land of Mexico, immediately in the rear of Vera Cruz and the adjoining coast, on

descending from the elevated position of Xalappa at the summit of the acclivity to the sea shore, becomes too often the victim of the vomito.

So, also, as is familiarly known at Havanna, and other places, do those more robust and healthy *natives* of the interior of Cuba, when they come in the summer from their plantations, to visit or to reside among their pale, languid and sickly brethren of the sea port, too often perish with the black vomit under its most appalling form; the native inhabitants, and long and constant residents of the sea ports, being the only description of persons who become positively acclimated to the tropics, and provided thereby with an absolute immunity against an attack of yellow fever. Likewise does an habitual and permanent residence at sea *within the tropics*, from the atmosphere being, in warm weather, purer and some few degrees cooler than in corresponding parallels upon land, give, as it were, to the organization, what may be termed a greater degree of *sporadic susceptibility*. How often thus does it happen, that our vessels of war, as well as those of other nations cruising in the West Indies, so long as they are kept at sea, under the regular discipline established by these vessels as to food, drink, labour, cleanliness, and ventilation, escape the vomito, and enjoy, in the more uniform temperature, and cooler breezes of the ocean, uninterrupted health, until touching, *for twenty-four hours only*, perhaps at some sea port, the indulgence in improper excesses of some few individuals who have been permitted to go ashore, kindles the spark, which a few days after, being out at sea again, spreads like a frightful conflagration through the whole ship's company. To such a cause may, as I conceive, be attri-

buted the sickness which spread through the United States vessel of war the Peacock, during the last summer. That vessel was kept so constantly at sea during the summer, never coming nearer scarcely than the mouths of the sea ports, that I heard it frequently made the subject of remark during my residence at Havana. The very first cases of yellow fever on board were, as I learn from the assistant surgeon, those of the first Lieutenant, and one the of midshipmen, and these occurred immediately after a very short visit of a few days she made during the summer at Matanzas. They both proved fatal. Some short time after she touched at Havanna, I know, for it was there I became acquainted with the medical officer mentioned. And very shortly after that she was pronounced a sickly vessel, and put into Pensacola, where a very large number was buried, both of her officers and crew.

Instead, therefore, of believing the infectionists, or advocates of domestic origin ; instead of lending, as was formerly the case, too credulous an ear to those unitarians in medicine, who maintained that yellow fever was but a variety, or modification of the great type of bilious remittent and intermittent fevers indigenous to our country ; instead of reposing confidence in the absurd fictions of an inexperienced judgment and diseased imagination, the people of our sea port towns began to turn the matter over in their minds, and to think for themselves. They found, that by remaining in the cities after the pestilence was introduced, under the false belief and assurance that it was an *ordinary bilious fever*, that death stalked abroad in every direction, and mowed down his victims with unrelenting fury, and appalling mortality. But on

adopting the reverse principle, of flying at the approach of this scourge, for refuge, into the pure air of the country, they found that the disease could not follow them, and that its ravages were in the same proportion diminished. Which method of impeding the march of this dangerous distemper, has since been perfected (in New York especially) into a well regulated system, founded and organized upon the principles advanced in the doctrine that I have propounded. Nor should we have had such melancholy proofs of the epidemic contagiousness of the vomito during recent years in Spain, if this salutary, and truly efficient plan, had been properly attended to; no more than we should have the almost annual recurrence of yellow fever in the sea ports of our southern states, Baltimore, Charleston, Savannah, &c. if there were not in those places such erroneous opinions prevailing respecting the nature of the disease in question. Luckily for those sea ports nearest the tropics, the constantly unremitted high temperature of the atmosphere there, by its rarefying power, curbs the progress, and clips, in some measure, the wings of the pestilence; Providence thus, in some degree, repairing the errors that have been caused by the illogical reasonings, and reprehensible folly of those to whom she thus imparts her favors."

We regret that our limits will not permit us to make more extended quotations from this author, who has written well on the subject, and whose work contains much valuable matter.

Dr. John W. Monett, gives an account of the Yellow Fever being carried from Natchez to Washington, an inland town six miles east of Natchez.*

* American Journal Med. Sciences, Vol. page 247.

"About the last of August cases of Yellow Fever were reported in Natchez; and the Board of Health advised the citizens to leave the place. The consequence was, that in two or three days a great proportion of them fled, many were dispersed in the surrounding country; the merchants principally crowded into Washington, bringing with them all kinds of goods and groceries. Houses which before had been considered unfit for residence, and such as were abandoned were now filled with tenants. About this time several persons died of Yellow Fever in Washington, who either left Natchez after they were taken sick, or whose disease could be distinctly traced to that place.

Ten or twelve days after the flight from Natchez, the first cases occurred, which originated in Washington. The first case was that of Mr. L—s child, which died on the 6th day of its sickness. On the next day Mrs. C. was taken sick, and died on the 8th day of her disease. On the same day three others were taken with Yellow Fever, of whom two died; one, on the 5th and the other on the 6th day of the disease. Of these three M. & L. lived together in a house entirely isolated, and two hundred yards distant from the main street on an elevated, and clean situation. They were carpenters by trade, and during the week previous to their sickness, had been shelving rooms for the merchants from Natchez, and likewise assisting them in opening and putting up their goods; to this source they attribute their sickness. M. died on the 5th day: L. recovered. The other case Miss P. was attributed to the admission into their house (which consisted of but one room) of a family from Natchez with their household furniture. Cases now began to occur in-

discriminately ; in every part of town, with much malignancy ; insomuch, that a majority of the inhabitants together with those who had fled from Natchez, speedily left town and retired to the surrounding country.

As to the origin of this fever in Washington, two different opinions are entertained, and supported by their respective advocates. One is, that it originated in Natchez, and was transported to Washington, in the state of fomites in blankets and various other articles of merchandize. The other is that it originated in Washington independently of Natchez.

That Yellow Fever may be *infectious*, is believed and supported by many able authorities, which shall not now be adduced ; many of whom, have been long intimately conversant with it in different climates.— That it may be propagated by means of *fomites* contained in blankets and other articles, I am convinced, not only from authorities, but likewise from personal observation, and during the late epidemic, several cases fell under my observation, which to me incontestibly *prove the fact*: cases where the disease was produced *in the country*, without any exposure to town, from the blankets and bedding, used by persons who died of that disease after being removed from town. At a gentleman's two miles from Washington, two of his relations, after being removed thither, died of Yellow Fever.— The bedding on which they had laid, by accident were thrown together in an upper room, where they remained several days. In this place they were found by three small girls, who, for two or three days, unknown to their parents, were in the habit of going into this room to play upon the bedding. In a short time, all

three of those children were attacked with well marked cases of Yellow Fever; notwithstanding, the situation is, and has been noted for its salubrity, and they had no opportunity of contracting the disease elsewhere. These were the only persons in that family who contracted the disease."

The following extract is from a manuscript copy of notes on the Lectures of Professor N. Chapman of Philadelphia, which have been kindly loaned.

"The disease (Yellow Fever) may arise either from a *foreign* or *domestic* source. I do not believe that the disease is brought in a ready formed state, nor is it capable of being carried by *fomites*. *Vessels* may supply the materials, from which the disease is generated. In this City it has arisen from vessels. In 1793, it was said to have been produced by a cargo of *rotten coffee*. In 1797 it was attributed to two Ships from Marseilles and Hamburg, and in '98 from the West Indies. In 1805 it occurred thus at Amboy, and in 1818 at Baltimore. A vessel arrived at New York *suspected*, she went to Jersey, her cargo was taken out, and every person engaged in the operation, was attacked with Yellow Fever, and the whole of the rest of the village took the disease, it spreading in the direction of the wind. So was the case at Baltimore. Nor is the mode obscure. The hold is hermetically sealed by the hatches, no air can escape nor water enter. Such a vessel may therefore arrive containing the atmosphere of the place from whence she comes."

We come now nearer home, and offer some evidence which we have collected, tending to confirm the views and opinions previously expressed.

Extract from a note book kept at the Poor House, Charleston :*

John Georgins a native of Hanover, but for the last two years a resident of Charleston, aged 30, of leucophlegmatic temperament, was discharged from the Hospital of the Alms House, Nov. 4, 1830, cured of Erysipelatous inflammation of the leg and ankle. During his confinement in the Hospital, several cases of Stranger's fever had been admitted, near which he had lain.

On Thursday the 2d December, 1830, he was again admitted, extremely ill. Stated that he had lain on the same bed on which a man had died two weeks previous of Stranger's Fever. He further stated, that he had been attacked three days before his admittance with a chill, pain in the head and eyes, back and loins, and also in the muscles of his thighs and legs, bad vision, said that every thing appeared black or green. Skin was now yellow, hot and dry, tongue of a dark yellow appearance except the edges, which were of a glossy florid appearance—stomach irritable, nausea and vomiting. Pulse full and more frequent than natural, but was easily compressed.

Five o'clock p. m. had incipient black vomit—said he was much better—'tis true he was more quiet—Symptoms in some respects about the same. Six o'clock visited him accompanied by Dr. — who was under the impression that it was a case of intemperance, but said he had not seen enough of the case to

* The Institution was at that time attended by Dr. A. G. Howard. We have omitted the treatment and symptoms except so far as to identify the disease.

speak positively. Georgins declared he had not taken any thing to drink since his discharge, except a few glasses of Beer and water, fearful that it would produce a return of his former disease. Dec'r. 3, Friday, 10 p. m.—Stomach irritable, had vomited a great deal of black matter through the night, which partook of the character of black vomit in Yellow Fever—Skin hot dry and yellow, pulse 100, tremor of the under lip and hands; said he was much better—great pain in pressing over the stomach and bowels, tongue moist, eyes much suffused, not unlike they had been exposed to strong smoke. One o'clock p. m. symptoms somewhat alleviated, had not vomited since, said he was much better—pulse 100, skin hot and dry. Two o'clock p. m. complained of nausea, and felt like vomiting. Six o'clock p. m. pulse 100, surface constricted no action on the capillary system, *had vomited a large quantity of matter resembling soot with mucus*; two evacuations from the bowels of the former appearance, had been troubled with hiccough through the day. All that had been ejected from the stomach, was acrid and bitter to the taste. Saturday, 10 o'clock a. m. no perceptible change, said he felt better than he had since he had been taken sick. Twelve o'clock M. had not vomited or had an evacuation since morning. Four o'clock p. m. very sleepy, pulse 112, a kind of stupor seemed to prevail, and on the morning of the 5th inst. about Eight o'clock, after vomiting *a very large quantity of black matter*, he expired immediately, the 6th day after his attack.

The following circumstances transpired in connexion with the Relief Hospital of this City—during, and subsequent to the prevalence of the fever of 1838.—We

are indebted for the narration to Dr. A. G. Howard, the attending Physician.

“Harvey was employed in the capacity of a nurse at the Marine Hospital, during the earlier part of the season, whilst that institution was crowded with cases of Yellow Fever. Upon the opening of the Relief Hospital, he was engaged there in the same capacity. He discharged his duties, without being sick a day, until the Hospital closed; embracing a period of nearly six weeks. He continued to sleep in the Hospital, on the beds, and under the bed clothes, which had been used by the patients, all the doors and windows remaining shut, except the one by which he entered. At the expiration of a week, he was taken ill of Yellow Fever, a violent and well marked case.”

We think this a strong case, showing the influence of confined situations in increasing the virulence of Malaria. This individual was exposed to the action of the causes of the disease for more than two months, and did not contract it so long as free ventilation was used, by which the morbid agent was dispersed and dissipated almost as soon as formed. When however, the Hospital was shut up, it would seem, that it acquired an increased, and sufficiently concentrated energy to excite the disease.

A case very analogous to this occurred at Saint Augustine in 1839. Mr. Miguel Martinez, a native of Spain, 50 years and upwards of age, arrived in the United States two years ago. He resided in different situations until March last, when he settled at this place. During the existence of the fever, he went to Charleston where he remained for a short time, and then returned to Saint Augustine. At the time of his

return, it was considered that the fever had subsided. Martinez found his partner Mr. Baily convalescent from the fever. He used the bedding etc. of Baily, consisting, of a feather bed, two blankets and pillows. In the course of a few days, he took sick (on the 16th) and died on the 26th of November. This was a genuine case of Yellow Fever, attended with Black Vomit.

It will be recollected, that the Yellow Fever also occurred in Charleston about the 1st of August, 1838. We have been informed by Dr. C. C. Pritchard, that he attended eleven cases of fever on board the British Barque Lord Glenelg from the 5th to the 23d July. He is of opinion that these cases were imported from Demarara, as the Barque was direct from that Port, where the disease then existed. The Lord Glenelg probably arrived about the 4th of July. Three of the cases were decidedly marked Yellow Fever. The first patient was taken either before, or very soon after the vessel hauled to the wharf. The Barque lay at Boyce & Co's wharf. The first case in the private practice of Dr. Pritchard was Mrs. Martin, who took sick on East Bay opposite to Hard Alley. Her husband was Steward of the Ship Medora, Capt. Budd. She came passenger from Liverpool in the Medora and was frequently on board to see her husband. She was taken sick on the first of August, a decided case which terminated fatally.

On reference to the books of the Marine Hospital, we find the first case reported for 1838 to be that of Ryan, who was a seaman on board the Medora. He came in on the 4th of August, a decided case, which terminated fatally. He had been sick three days before his admission.

The ship Medora lay at Magwood's Wharf, about 120 yards north of the Lord Glenelg. These as far as I have been able to ascertain, were the first cases of 1838, and seem to indicate with sufficient clearness the source from whence the disease came.

On or about the 21st July, 1839, we attended a lady Mrs. B—— in her confinement, who lived in Saint Phillips street near George, she was safely delivered of a healthy child. In consequence of her not being able to nurse it herself, a free colored woman was employed for that purpose. This woman suckled the child on Thursday and Friday the 18th and 19th August, when she took sick of the fever, being a stranger to the climate. On Friday the 19th the child also sickened, but the character of its disease not being suspected we were not sent for until Monday afternoon the 21st August, when we found the child very ill, the skin and eyes very yellow. It died that night. Permission being granted, a post mortem examination was made, and all the indications of Yellow Fever were discovered, including a portion of Black Vomit in the Stomach.

Mrs. B—— the mother of the child, herself a stranger to our climate, took sick of the same disease, 12 days after the death of her child, but recovered. The child was only one month old when it died. Neither the mother nor the child had crossed the threshold of the door from the time of the birth of the latter until both sickened.

Did, or not the child imbibe the disease with its nurse's milk and afterwards communicate it to its mother who waited on it night and day? This at least seems probable, as no cases had occurred in that neigh-

borhood, and as neither of the parties had been abroad to get it.

Correspondence with Dr. Dickson.

CHARLESTON, 13th Jan'y, 1840.

My Dear Sir,

Knowing the high estimation in which you are held as a Lecturer and Physician, and believing that you will not hesitate in the expression of any opinion which you entertain, more especially, when that expression may subserve the public interest—I take the liberty of requesting from you, your views as to the contagious, infectious, or transmissible character of the Yellow Fever.

Your answer will confer on me a favor, which will be highly estimated and gratefully acknowledged.

I remain

Very Respectfully,

Your ob't servant,

B. B. STROBEL.

To

Samuel Henry Dickson, M. D.

Professor of Ins. & Practice of

Medicine, Medical Coll. State S. C.

In reply to the above we received from Professor Dickson the following highly interesting letter, which we take pleasure in presenting to the public:

CHARLESTON, January 14, 1840.

B. B. Strobel, M. D.

DEAR SIR—Your note of yesterday desiring an expression of opinion on a topic of high interest, lies before me. I proceed to reply frankly and readily, notwithstanding my unpleasant consciousness of differing

in sentiment, concerning it, from a large majority of my Professional brethren and greatly esteemed friends.

The difficulty of the question which you present, seems to be totally unfelt by those who reside in localities where Yellow Fever is familiar as an annual visitant, and where it seems, so to speak, a spontaneous production of the soil and climate. It is easy to cut the gordian knot which we cannot untie, and attribute it to contingencies existing coincidentally in each instance of its invasion, but this is both unphilosophical and unsatisfactory. What conditions are offered in common in the numerous localities where Yellow Fever has prevailed—in Charleston, Gibraltar, New Orleans below the surface of the river Mississippi, Ronda at an elevation above the sea of more than 4000 feet, Norfolk, Sullivan's Island a mere sand bank, Vera Cruz, Boston, Cordova, Sierra Leone, New York, Havana and New Haven. When we have decided upon these essential and sufficient conditions let us enquire which of them are wanting in Calcutta, Batavia, Algiers, Albany, Smyrna, Cairo and Constantinople, where it has never yet appeared. Let us further endeavor to shew any reason why in some localities it returns regularly with the season as at Carthagen, Kingston &c. and only occasionally invades St Augustine and Natchez, Baltimore and Philadelphia, Cadiz and Seville, Augusta and Germantown.

I believe Yellow Fever to be "transmissible" or communicable from *one City to another*, provided the general circumstances of the two are similar or analogous; that is I believe the unknown and obscure cause of Yellow Fever is transportable from place to place, and in a variety of modes. This cause requires for its

efficiency an undefined concurrence of favoring circumstances without which it will fail to produce its specific influences; but this is true of the agency of every cause of Disease.

Of its *contagiousness*—using the word in the limited and popular sense—its direct propagation from one subject to another, I have never witnessed any example, and until very recently should have denied its possession of this property in our climate. The events of the last summer however have inclined me to entertain an opposite opinion. It is obvious that a Physician must occupy two positions in reference to any professional question of this sort. If interrogated *as a witness*, his testimony must be according to his individual experience and observation however contracted or partial they may be. But *as an enquirer after truth* he must take a wide view and consider for himself all the facts collected by those who have enjoyed a greater scope of opportunity. Yellow Fever is so clearly an Endemic and from time to time a Local Epidemic here, and our population undergo so universal an exposure to the action of a cause widely diffused in the atmosphere, that no occasion is left for its progressive extension from person to person by mere contagion, or rather it would be impossible here to distinguish its communication in this mode, if it were to happen. But an impartial perusal of the statements and arguments of Pym, Blane, Arejula, Wistar, Hosack and Monett, has satisfied me that it deserves to be ranked among Contagious Diseases. Every one is aware of the immunity of the acclimated resident of localities where Yellow Fever is endemial and of the extreme rarity of second attack of this terrible pesti-

lence—immunities well known and observed in Europe as well as America. In this character it offers a strong analogy with Contagious Febrile Diseases, and an equally strong contrast with ordinary endemics such as Remittents and Intermittents. These if they do not *prefer*, certainly do not *spare* the most habitual resident, but attack him again and again. Our “Stranger’s Fever” is most emphatically well named from its inhospitable tendency to assail exclusively the adolescent native and the newly arrived stranger.

I remain Sir, Very Respectfully,

Your Obed’t Servant,

SAMUEL HENRY DICKSON.

Circumstances, hereafter to be detailed having led us to conclude, that the causes which produced the Yellow Fever at Charleston in 1839, had been imported from the West Indies, we were for some time in a state of perplexity and doubt as to the true path of duty,—the almost unanimous opinions of the physicians of this place being in decided opposition to such a conclusion. Yet how could it possibly be otherwise?—For more than a century the Yellow Fever had never shown itself at so early a period as the 7th of June. Indeed when we first announced the fever, it became a subject of ridicule and laughter to many who scouted the idea, “as every well informed physician knew that it never commenced its ravages, until the last of July or the first of August.” Never did man more ardently long for some ray of light, to indicate the way that he should go. Just at that crises, the way was opened: the fact was announced, that the disease had made its appearance at Saint Augustine, and that it

had been transmitted to that place from Charleston. This was an opportunity not to be lost. It is only in small places where facts can be isolated, that they can be positively established and proved. Whilst in large commercial cities, the complicated communications between the crews of numerous vessels, is calculated to conceal the true channels through which diseases are introduced. In such places too the number of physicians being small, it is more easy to ascertain the occurrences within the range of each man's practice, than where they are more numerous, and where of course great diversities of opinion exist.

Such were the considerations which determined us, to visit that place, which determination was hastened into execution, by the reception of information from respectable sources, of the deplorable condition of the community, occasioned by the wide spread of the disease, and the death of one, and the sickness of all the other physicians. This was a powerful and additional incentive, independent of satisfying ourselves as to the true origin of the disease, our humble efforts might contribute relief to a distressed community. Who could hesitate under such circumstances? Who stop to calculate the loss of time, the expense, or personal inconvenience?

On the 13th of November we took our departure from Charleston on board Steam packet Southerner, and arrived at St. Augustine on the 15th at 7 A. M.—On our arrival we were informed that the disease had suddenly abated in consequence of a spell of cold weather; most of the patients had recovered;—Passed Midshipman Smith of the U. Navy died on the 14th. The Physicians seemed to be nearly unanimous in the

belief that the disease had originated from local causes, whilst the inhabitants were equally unanimous and positive in believing, that it had been introduced from Charleston by the Abel family. We determined to hear all parties and in the midst of the multiplicity of opinions, error, and prejudice to arrive at truth.

We propose to arrange the facts collected at Saint Augustine under two heads—first as they relate to the Fever of 1821, and second as they relate to 1839.

Before however stating what occurred in 1821, we must call to mind what has already been related in reference to the introduction of the disease into Barcelona during the same year. What we state has been collected from eye witnesses, who were present at the time.

On the 10th of July 1821, the exchange of flags took place, by which possession of the territory was transferred from the Government of Spain to that of the United States. On that occasion a large number of persons from the United States, and who were strangers to the climate, citizens, as well as soldiers were present. It would appear that the police of the place had been somewhat neglected by the old Spanish residents, and that there were some local causes capable of engendering disease. Many houses which had been untenanted for some time, were perhaps occupied without sufficient cleansing. Be this as it may, there existed exactly such a condition of things, as in our opinion is necessary to the transmission and propagation of Yellow Fever. These local causes had however manifested their legitimate effect in the production of some cases of Bilious Remittent Fever among the soldiers, early in the season, and prior to the introduction of

the Yellow Fever, which took place in the following manner.

The Spanish inhabitants and Government troops were conveyed from St. Augustine to Havanna by transports furnished by the U. S. Government. They set sail from the former port, on or about the 15th of July.* At all events they were reported as arriving at Havanna on the 2d of August.† Three of these vessels returned very soon after to Augustine. The Sch'r Florida Johnson and sloop Rapid, probably, about the 12th of August, & the schooner Alexander on the 19th; the crews of these vessels having during their visit contracted the Yellow Fever at Havanna. On the arrival of the schooner Alexander, she was navigated into port by two natives of Saint Augustine, as the Captain and all his crew (excepting the Cook who was then at the point of death) had died on the passage. All of these vessels were quarantined, not rigidly however, as two persons, strangers, were allowed to go on board of one, and who very soon after their return to the City, were attacked with Yellow Fever;—whilst the clothing of the crew of another being sent ashore to be washed; the family who undertook to wash them contracted the disease, and nearly the whole of them died. This was the family of Devellin, who lived in the house now occupied by Mr. John Drisdell. We have stated

* The Charleston City Gazette (July 21) reports, that the U. S. Schooner Tartar, left the U. S. Schooner Porpoise Lt. Com. Ramage, at anchor off Augustine Bar, the transport ship Meteor Glover, and several smaller vessels, with Spanish troops on board for Havanna—it was expected they would sail on Monday the 16th inst.

† Charleston City Gazette, Aug. 23, 1821.

that all the crew of the schooner Alexander died prior to the arrival of that vessel, with the exception of the cook.* While she lay at quarantine he also died, and his bedding and bedclothes were thrown overboard to purify the vessel. These floated up the North River with a flood tide, and were picked up by Mr. Thomas Fitch who was going in a boat to his plantation, situated about 20 miles from Saint Augustine. It is said he made use of them there, and before many days took sick at his plantation, as well as a negro woman who had been employed in washing them. Both of them returned to Augustine sick. The disease spread from them to the whole family of Mr. Fitch, every one of whom died, including his nephew Mr. Bird. I am inclined to think that Thomas Fitch was among the first if not the very first who died of Yellow Fever; for the following reasons. The city whilst under the Spanish Government, was composed, almost exclusively, of Catholics, of course, there was no Protestant place of burial. It therefore became necessary on the death of Mr. Fitch to make some provision for his burial, and the following proceedings took place—

In Council, 10th September, 1821.

“*Resolved*, That Messrs. Gay and Dubose, be a committee to call upon Mr. Gobert, and apply to him for

* The Charleston Courier of the 23d of August 1821, reports the arrival of the Sloop Niagara, Fowler, from whom we learn, that the Scher Alexander, Rogers, one of the transports which carried the Spanish troops to Havanna, had returned to Saint Augustine on the 19th of August. The Captain and all the crew dead, with the exception of the Cook, who was very sick. The vessel was carried into port by two passengers.

leave to inter the late Judge Fitch in his lot adjoining the Catholic burial ground.”†

This opinion derives confirmation from the following facts:—“ Thomas Fitch was sworn in as presiding Judge of the County Court, on Saturday the 25th of August 1821.* The following items are also found in the City Gazette of the same day. “ Notwithstanding the heavy rains, the city (Saint Augustine) still continues healthy.”

“ *Health of Havanna.* The latest accounts state it to be very sickly, indeed most of the vessels arriving in the United States from Havanna loose part of their crews.

“ *Baltimore.*—We regret that several new cases of malignant fever have been reported, and that ten deaths had occurred.

“ *Norfolk.*—Some new cases of malignant Fever are reported.” It would appear then that Mr. Fitch must have been taken sick subsequent to the 25th of August, the day on which he took his oath of office.

The disease thus introduced into Saint Augustine seems to have spread slowly at first, for it will be recollected, that Mr. Fitch died on the 10th of September, and we find no official announcement of the fever, until the 6th of October, when Governor Worthington issued a proclamation declaring, “ that the City was visited by a fatal and malignant-sickness.‡

The City Gazette of the 15th October, contains the following :

† We are indebted for this extract from the proceedings of Council, to Mr. P. B. Dumas the Clerk.

* City Gazette, 1st September.

‡ See Charleston Courier, 15th October, 1821.

Extract of a letter to a Gentleman in this City, dated
 SAINT AUGUSTINE, 7th October, 1821.

“Our situation is very distressing. I wrote you last Sunday of the fever which prevails here and which terminates in black vomit. Several persons have died since last Sunday: almost all who die, are taken with this fever. There are a great many strangers here without a cent to help themselves, as they have to depend on the charity of other people, or lay down and die without assistance. The Spaniards have joined the Americans in subscribing to relieve the wants of the poor.”

The City Gazette of the 31st October, remarks that “the sickness of St. Augustine appears to have increased since our last accounts. That portion of the population who have it in their power to do so, have removed. Mr. Richard W. Edes editor of the Florida Gazette, died on the 15th instant of a malignant fever, after an illness of five days.”

The same paper under date of 19th November, observes—“It is with sorrow we learn that the sickness at Augustine remains unabated. The Lieut. Governor, Worthington, had left the city for one of the adjoining islands, and the inhabitants generally await with fear and trembling, the further ravages of an epidemic, which carries in its progress the desolation of a pestilence. The cold weather we have recently experienced, may under Providence put a stop to its career.”

The sickness seems to have declined from and after the middle of November, but occasional cases occurred as late as December, and it was not until about the 8th of that month, that the Board of Health ventured to announce “no new cases.”

From these facts which have been collected with great pains after a lapse of nineteen years—it seems to us impossible to demonstrate more plainly and palpably the introduction of a disease from abroad. Before we leave the subject however, we must trespass on the time and patience of the reader, whilst we present the testimony of some of the witnesses which we examined, as we think their evidence will prove highly interesting.

Mr. Alvarez, 48 years of age, is a native of Saint Augustine, and has lived here all his life.—He states that the place is generally very healthy, and particularly exempt from fevers, with the exception of cases called country, sometimes contracted in the adjoining settlements. He is not aware that the place is subject to any particular form of fever; occasionally, but very seldom, the inhabitants have been attacked with dysentery, and other affections. He was informed that the Yellow Fever prevailed about 1807. He knows that it did in 1821. He does not pretend to say what was the character of the fever of 1839. Believes however, from his own knowledge, and what he heard, that it was Yellow Fever in some cases. He was at Havana in 1807, heard that the disease prevailed, and that many children and strangers died. In the year 1821, he was at Augustine; it was the year of the cession. The old Spanish inhabitants and the government troops removed to Havanna after the change of flags, which took place on the 10th of July. A number of American vessels from the north were employed for the purpose of transportation. Three of them as he recollects—the Schooner *Alexander*, the sloop *Rapid*, and Johnson's schooner (the *Florida*) after having com-

pleted their voyages to Havanna, returned to Augustine. The crews of all these vessels being sick, and dying with Yellow Fever, supposed to have been contracted at Havanna. Of the Alexander's crew all died except two natives of Augustine, who were on board and who brought the vessel into port. He thinks that previous to the arrival of the Alexander, which was the last of the three, some fever had occurred, but subsequent to the arrival of the other two vessels, which came some days before, part of their crews or passengers either being sick or having died of the Yellow Fever. No disease existed prior to the arrival of these vessels excepting dysentery, which affected chiefly children—it prevailed in May and June. It had however ceased before the fever came.

The unanimous opinion of the inhabitants was, that the fever was imported in the following manner: two young men, strangers, who had occasion to visit one of these vessels immediately after her arrival in port and before she had hauled to the shore, were taken sick the day after, and both died with black vomit.—On, or about the same time a mattress and some bed clothes were thrown over board from one of these vessels, then lying at quarantine, which floated up North River, and was picked up by Thomas Fitch, a lawyer, who was going up that river in a boat to his plantation, twenty miles from Augustine. He had been in Florida about one year. As already stated he was going up the river; he took this bedding into his boat—he had it cleansed, and it is said that the woman engaged in that office died. He himself was taken sick at his place, came to town and died with Black Vomit.

His wife, his children and nephew Bird (who lived in his family) took the same fever and also died.

The disease gradually extended through the whole city. Many persons died, particularly strangers.—Some of the natives had fever, but none died as he knows. The facts here stated may be relied on as substantially correct—they made a very strong impression on the mind at the time of their occurrence.—There may be some little variation as to date.”

Mr. Peter Bennet, 41 years of age, a native of Augustine, confirms in every particular the statement of *Mr. Alvarez*. We cannot forego making an extract from his testimony in his own strong and emphatic language.

“He was at Augustine in 1821, and recollects the occurrence of Yellow Fever—it was real Black Vom-it. That fever came from Havanna in the schooner *Alexander, Rogers*. It came *direct*. There were on board two brothers, natives of Augustine of the names of John and Peter Miller, and one negro. They were the only three on board when the vessel came into port. She was stopped at the quarantine ground where the negro died. They threw overboard the blankets, pillows and mattresses, which (some of them) were picked up by *Thomas Fitch*, who was going to his plantation about twenty miles from Augustine. They were made use of at the plantation. He, and one other, were taken sick, brought to town and died of black vomit.”

This is the plain unvarnished statement of two disinterested witnesses—Gentlemen of honorable character, and whose veracity none dare impeach. It is not to be wondered at that after a lapse of nineteen years

they should not be able to recollect days and dates. Nothing but dates are wanting to constitute their testimony the most positive evidence that could be adduced. Those dates we have supplied from old files of the Charleston Courier, and City Gazette in our statement.

Dr W. H. Simmons, has resided in Florida more than 18 years, with an occasional absence. Was at Saint Augustine in 1821, when the Yellow Fever appeared. He considered the place at that time to be in a filthy condition. The Spaniards who were about emigrating to Cuba, having for some time neglected all police regulations. The season was hot and rainy, without thunder and lightning, alternations of heat and showers. The fever broke out in September.—It commenced among the strangers and was confined exclusively to them. There was a report, that the first cases occurred in a family where some clothing had been washed belonging to part of the crew of a vessel, some of whom had the fever. He did not however take the trouble to investigate the truth of this report. The disease was the genuine Yellow Fever—most of the cases terminated *fatally*, from the 3d to the 5th day, in black vomit. Thinks upon reflection, that the first case of death, was Lieut. Washburn* of the United States Artillery. Many officers and soldiers died.

The Doctor is of opinion that the sickness of that year, may be attributed to the general unhealthiness of

* Lieut. Washburn is reported by the Charleston Courier as having died about the middle of August of Bilious remittent fever, consequently prior to the occurrence of Yellow Fever, in September.

the season, combined with local causes. An unusual number of cases of country fever occurred. Col. Fleming who had been in the habit of visiting his plantation on the St. Johns for many years, died of it.—Some time also in the summer, the little Matanza's bar closed, by which fresh water was substituted for salt, and the marshes, oysters, etc. were destroyed, and a great deal of vegetable and animal putrefaction was induced, the effluvia from which was frequently perceived in the city, being brought up by the prevailing S. E. winds, and no doubt contributed to contaminate the air.

From the non-occurrence of frost, cases continued to occur, until the end of December. The mercurial treatment, was fully tested by the Physicians of the place, and was signally unsuccessful—so much so, as to create a lasting prejudice in the minds of the people against the use of that remedy. By the mercurial treatment is meant the attempt to arrest the disease by salivation,—as a purgative, Calomel did good. The disease was so fatal, as to destroy confidence in all the modes of treatment adopted. The Doctor does not think that bleeding was used to any extent. Sugar of lead was tried, towards the close of the season, in some cases with success.

The city was not only in a filthy state, but some of the houses formerly occupied by the Spaniards, and which had been closed, were subsequently opened and tenanted by strangers, without sufficient ventilation or cleansing. A change of residence or lodging seemed in every instance to induce an immediate attack."

We differ of course with Dr. Simmons in regard to the agency of these causes in generating the Yellow

Fever, and believe had no intercourse taken place with Havanna, that those causes would have produced the ordinary Bilious Remittent fevers of the country.—The atmosphere was however ripe for the introduction of any pestilence, and hence when the atmosphere of Havanna was superadded to the pre-existing impure air of Augustine the Yellow Fever was the product. Entertaining as we do the most profound regard and respect for Dr. Simmons, we venture to dissent from him with regret and deference. We know him too well to believe otherwise than that his expression of opinion arises from the honest conviction of his heart—and that he is not a man to be swayed from the path of truth or duty by any consideration.

General Hernandez, has been a resident of Saint Augustine fifty-two years, with an occasional absence. He considers St. Augustine to be very healthy, no place more so. This is one of his principle motives for continuing his residence.

He was at New Orleans when the fever occurred about the year 1807, and of course knows nothing of it from his own observation.

He recollects the Yellow Fever of 1821. He concurs fully with Dr. Simmons, in regard to the absence of proper police, and the existence of local causes in connexion with the closing of the little Matanza's bar, by which a large lagoon, which had formerly been covered with salt water, was filled with fresh by the fall of rain, and the draining from the interior. All the salt water animals and vegetables were thus destroyed, and by their decomposition gave rise to exhalations of Malaria, so offensive that the stench could scarcely be borne, as the General knows from his own observation,

having frequently had occasion to pass this place in visiting his plantation at the head of the Matanzas river, eight miles south of the little Matanzas.

There was an absence of all police, occasioned by the transfer of the place from one government to another.

The general impression of the inhabitants was that this fatal disease was brought to this place, by transports from Havanna. These vessels had been employed in carrying the old Spanish settlers and government troops to that place. The disease was attributed in a great measure to clothes being washed from on board of these vessels by a family named Devellin, who lived in a house now occupied by Mr. John Drisdell, and to some bedding, said to have been picked up by Thomas Fitch a planter up North River, about 20 miles from Augustine. It was stated that he used these articles on his place where he took sick, and from whence he was brought to town, where he died, and where every member of his family, including his nephew Mr. Bird, also died with Yellow Fever. The General is however doubtful, if a mattress saturated with salt water could have occasioned the disease, as he thinks the virulence of the poison would have been destroyed by the water.

General Hernandez has seen a good deal of Yellow Fever. It prevails in almost every island of the West Indies, and where it is endemic. On the coast of Mexico, it is confined to a space of sixty miles wide, extending from the sea coast, beyond which the disease does not extend. The inhabitants of the interior are as apprehensive of approaching within that space as Northerners would be of coming to Charleston during

the prevalence of the fever. The fever occurs in Mexico between the months of August and November. It does not however affect the natives, nor persons that have been acclimated.

General H. does not believe the disease to be contagious, though he thinks it may be transmitted from one place to another, provided, the condition of the atmosphere be such as to render it susceptible of the impression—in other words, it must be vitiated—the disease will not spread in a healthy atmosphere.

During the prevalence of the sickness at Augustine in the year 1821, the General had two families of negroes settled at Bella Vista, on the eastern shore of the Matanzas River, and on a hill elevated twenty feet above the level of the water, on the widest part of the River, and most free from marshes; presenting a clear sheet of water, about one mile wide in every direction, and distant about a mile from Mala Compra where his principal gang of negroes, amounting at that time to nearly 100 were settled. Mala Compra is bounded by a narrow creek, the s. e. branch of the River Matanzas, with an immense body of marsh in front of the settlement. About the middle of December, a mechanic in the employ of Mr. Bulow, arrived at this place from Saint Augustine, on his way to Bulow's, situated a few miles below. This man was taken sick after his departure from Augustine, and on the very day of his arrival. He was so ill that he had to be taken out of his canoe by a man named Mars, whose residence was at Bella Vista, but who happened to be in the saw-pit at Mala Compra, and who was sent for that purpose. The sick man received every assistance possible at the plantation, until a cart came for him from Bulow's, in

which he was carried to that place, where he died soon after. Mars returned that night to his house at Bella Vista, and observed to his wife, that he had carried a white man in his arms, who came from town and was sick, and that he knew that he had caught his sickness. On that very night he was taken sick, and the next day the General who went from Augustine to Mala Compra, on hearing of his sickness, had him removed to the latter place, where better attention could be shown him. Here Mars died on the 6th day of his disease.

When he died, his skin from being of a jet black, became yellowish, also the palms of his hands, the soles of his feet, nails and eyes.

Daphne his wife, who was also brought from Bella Vista to Mala Compra to take care of her husband, took sick 4 days after his death and died in two days. She was also Yellow, but not so strongly marked as Mars.

Sue while attending on these patients, also took sick and died in about two weeks. The yellow tinge about as perceptible as in Daphne.

Binah who attended Sue, was taken sick about one week after her, and died in about twelve days.

Old Friday, who was constantly with all of these, took sick on the day of Sue's death, was ill two weeks and died, his skin was very yellow.

It was formerly stated that there were two families of negroes settled at Bella Vista. There were also two houses, one of which was occupied by Mars and his wife Daphne, and the other by Norfolk and his wife Edouarde. When Mars and his wife left their house to go to Mala Compra, it was taken possession of by the two other negroes. After living in it about

two weeks, Norfolk took sick, and died in about three weeks ; he had the same yellow tinge as the others.—His wife Edouarde continued to reside in the same house, and about three months after the death of Norfolk, she also sickened and died with the same symptoms. She was sick eight days. The cold weather which set in about the time of Norfolk's death, probably suspended the further action of the poison, until the following spring, when the recurrence of warm weather again set it in motion.

General Hernandez saw Mars on the second day of his sickness. He complained very much of his head had a high fever, great pain at the pit of his stomach, increased by pressure from which he flinched. He was at times very restless. His fever *did not remit*, and he retained his senses, until within a few hours of his dissolution. Convulsive hiccough attended the latter stage of the disease. He was able to use the cup from which he received nourishment. No black vomit was thrown up. The treatment was at first emetics and afterwards Calomel and Castor Oil.

These plantations had both been healthy, until that season, when the little Matanza bar closed. During the earlier part of the season, some slight cases of fever occurred at both places, but yielded readily to medical treatment. Nor has General H. ever known or heard of the existence of such a fever, at either of these places before, or since ; although high bilious fevers have at intervals since prevailed. He entertains no doubt that these were cases of Yellow Fever. It is a remarkable fact that of 100 negroes on the plantation, not *one* took sick of the fever but those who handled, attended and waited upon Mars—with the exception of Norfolk and

his wife Edouarde, who slept in and occupied the house where Mars took sick and remained a day and night."

If this be not contagion, we know not what to call it; and contagion communicated in a manner so direct and positive, that it cannot be mistaken. Say what they will about local causes, they could not possibly have operated upon *seven* and passed over *ninety* odd. It would also seem in this instance, whether owing to the free circulation of the air, or whether owing to the fact that the poison could not be a *second* time generated in sufficient virulence to propagate and extend the disease, that every case which occurred could be traced to direct contact with Mars, and he certainly took it from the white man who came from Augustine.

The little Matanza Bar closed about the 1st of May. The little Matanza River formed a communication between the lagoon (already alluded to) and the salt water of the ocean. The closure of the bar was produced by a wreck, driven in by a gale of wind, which stranded upon it. This lagoon is at least 20 miles distant from Augustine. The animal and vegetable decomposition which took place there did not produce any cases of Yellow Fever on General Hernandez's plantations, which were located in the very focus of the Malaria, although those causes had been in operation from May to December. We cannot therefore imagine what possible influence the closure of the little Matanza bar, could have exerted upon the health of Augustine, at least so far as Yellow Fever was concerned. The diseases generated on the spot where this great source of infection existed, (which is supposed to have been one of the exciting causes of the

fever at Augustine) were ordinary Bilious Remittent and Intermittent Fevers, perhaps of a more aggravated form than usual. So soon however as a case of Yellow fever arrived there, a definite number of persons were attacked—all of whom died. It seems to us unreasonable to attribute the occurrence of these cases to the epidemic state of the atmosphere. How is it possible if such a condition did actually exist that only a limited number (*seven*) should be attacked, out of *one hundred*, exposed to the action of a cause which must have exerted an equal influence upon all?

So also it happened at Saint Augustine. Some cases of Bilious Remittent fever had occurred as early as August, and Lieut. Washburn of the U. S. Army died of that disease as early as the 20th of that month.*—But it is not stated that a single case of Yellow Fever existed until the 10th of September, subsequent to the arrival of the transports from Havanna, and it was not until the 6th of October (nearly two months after Lieut. Washburn's death) that the public authorities announced the appearance of a malignant fever.

The local causes which existed then at St. Augustine and the lagoon, had produced a vitiated state of the atmosphere calculated to generate a particular form of fever, Bilious Remittent, which actually did occur;

* His remains were interred with military honors, in the *glacis of the Fort*, attended by a very numerous assemblage of the inhabitants, and strangers in the city. Lieut. Washburn was highly esteemed by his brother officers, and the regret they manifested for his loss shows his merit in the Army, while the sympathy and sorrow of all, who knew, present his character such as it really was, an amiable, brave, enlightened man.—*City Gazette*, 1st September 1821.

on the return however, of the transports from Havana the character of the disease was changed by the addition of a new ingredient to the poison which already existed in the air, and Yellow Fever was manifested, first at Saint Augustine, from whence it was transmitted to Mala Compra.

From the year 1821, the Yellow Fever never again existed at Saint Augustine until 1839, when, as we shall endeavor to show, it was imported from Charleston. Indeed a single glance at the place is sufficient to satisfy any one of its salubrity. The concurrent testimony of all the witnesses certifies, that there is no form of fever *endemic* to it. Saint Augustine is situated in 29, 51 N. Latitude and 81, 28 west Longitude, on a dry, and sandy soil, free from ponds.

The following description will perhaps give a better idea of it than we can convey.*

“St. Augustine is the oldest city in the United States. It was first settled by the Spaniards under Pedro Mendez, in 1564. It is situate two miles back from the Atlantic shore, near the southern point of a peninsula, nearly surrounded by water; defended from the surf by Anastasia Island, which is not high enough to obstruct the sea breezes, or a view of the ocean. The situation is peculiarly serene, healthy and pleasant. The site was originally a shell hammock, scarcely twelve feet higher than the surface of the sea. The soil, although sandy, is rich in calcareous and vegetable deposits, finely calculated for horticultural pursuits. The town is, in fact, embosomed in a grove of orange trees.†—

* Territory of Florida, by John Lee Williams, page 117.

† 1834, before the great frost.



DIAGRAM of the **COAST** of **FLORIDA** from **ST. AUGUSTINE** to

MALA COMPRA

Abundance of fresh water is found near the surface of the ground, which, although it is not so pure as that of the country, is used without any inconvenience for all the purposes of drinking, cooking, and washing. The climate of St. Augustine is probably equal to any on earth. Snow is almost unknown, and frosts are felt in one, or two months only of the year, and many winters pass without discovering a mark of frost. In the summer season the air is tempered daily by the sea breezes, while the land breezes render the evenings cool and pleasant. Heavy rains are frequent during the summer months, but from October to May the air is usually temperate, and the sky serene.

In form, the town is a parallelogram, fronting to the east, on the Matanzas sound, which spreads a half mile in width between the town and Anastasia Island, forming a harbor sufficiently capacious to contain a large fleet in perfect safety. From the old magazine on the south to the gateway on the north side of the city, the distance is about one mile, and from the Matanzas to the St. Sebastian's on the west, is about three fourths of a mile. Not more than one half of this extent is compactly built. It contains upwards of three hundred houses, more than half of which are built of shell stone, called by the Spaniards *coquina*. Most of the old houses are two stories high, the lower floor of which is of tabby: in some instances the upper floor and roof are of the same material. These are now generally removed, on account of their great weight, from the upper part of the buildings. The principal streets cross each other at right angles, but they are narrow, and many of them very crooked. A fine large square opens from the Matanzas into the western part of the

town, in the centre of which stands a monument, dedicated to the constitution of the Spanish Cortez.— On the west side of the public square, where the old government house formerly stood, in the centre of the botanic garden, enclosed by high walls, a neat Court House has been erected. It is two stories high; in form of an L. It is built of coquina stone, and contains, besides the halls of justice, and jury rooms, apartments for all the public offices of the district. On the north stands a splendid catholic church, and the ruins of the old custom house, which was burnt down in January, 1825. On the south side are several elegant dwelling houses, and the new trinity church, a very neat edifice of the gothic order. In front of the harbor stands a neat market place; dwelling houses and orange groves fill up the intervening spaces round the square, which give it rather a rural than commercial appearance.

Fort Marion stands at the north end of the town, directly opposite to the entrance of the harbor, which it perfectly commands. It is built after the system of Vauban, and is said to be a very good specimen of military architecture.

From the fort, a sea wall seven feet high, and five feet thick, was extended to the public square. This wall is now rebuilding at the expense of \$50,000, under the superintendence of Mr. Dancy, late of the army, and will be extended in front of the whole city, to check the inroads daily made by the tides. Great injury has already been sustained, by one or two eastern gales, for want of this barrier.

The city contains 1739 inhabitants, of which 498 are males, and 519 females, 151 colored persons free,

and 571 slaves. Of this population, nearly one half are natives of the United States, the balance are descendants of the Minorcan families introduced by Dr. Turnbull; Spaniards, French, English, Greeks, and Italians, who are all rapidly amalgamating into one people, and will, ere long, assume a general national character.

Directly behind the town, an inlet of salt water enters from the southern marshes, and extends nearly to the north ditch. It is called Mary Sanches Creek. The space between this and the Matanzas River, is divided into squares of irregular dimensions. The western division between the creek and St. Sebastian's River, is laid off into lots of different size, from two to twenty acres. Most of these are covered with fruit trees, such as mulberry, plumb, peach, fig, pomegranate, and oranges. Across the creek, an excellent stone cause way is erected. The St. Sebastian's is crossed by a bridge 500 feet long, and a cause way is extended over the marshes, about seven hundred yards. The soil of the city and neighborhood is excellent for horticultural improvements, and much of it is cultivated in gardens, as well as groves. The timber which was originally abundant around the city, has in a long course of years been cut off to a considerable distance. Wood and fencing materials are consequently scarce and dear. Most of the lumber used here, is brought from northern parts.

St. Augustine has become a place of great resort for invalids, affected by pulmonary and bronchial complaints. To this circumstance and the sale of oranges, the place owes her prosperity. The accommodations for strangers are rapidly improving, and it is believed,

that in a short time, persons of the first rank, will be under no necessity for visiting Italy or the south of France, for the improvement of their health, as our climate is equally salubrious and the conveniences and luxuries of life may easily be obtained, when it is known that they will be required."

The local causes which are supposed to have originated the fever of 1839, consist of a low gully lying between the sea wall, and the houses on the east side of the town. Here we could discover no traces of animal or vegetable putrefaction, and on one occasion during our visit, after a north easterly gale, we attempted three times in the course of one day to pass, but were unable to do so, in consequence of its being inundated. The substrata is composed of masses of concrete shell; whilst the superficies consists of white sand formed by the decomposition of shells, and is consequently the carbonate of lime. Some filling up had taken place in this part of the town with shavings, and other stuff from the carpenter's shops, which were covered over with sand, but not to any very considerable extent. Now we cannot conceive that the action of heat on such a surface, could possibly have developed the Yellow Fever; and had it been capable of doing so, it is somewhat remarkable, that the effect did not take place, until the cause began to decline. In other words the heat in the months of May, June, July, and August (the hottest of the year) failed to develop disease, and it was not manifested until after the first of September, and subsequent to the arrival of the Abel family from *Charleston*, who presented the first cases. The house in which they lived, it is true was situated on the east side of the town and near the gully of which we have

spoken—but it requires a great deal of faith to believe that a cause so small, and so strictly local, could have generated a pestilence which swept over the whole city.

In order that each person may judge for himself, of the probability of this introduction, we have determined, to present the evidence collected on the spot, as nearly as possible in the very words of the witnesses.

We commence with the Abel family in Charleston. Dr. Edward Elfe informs us, that one of his first cases of Yellow Fever in 1839, occurred in the house of Mrs. Allander, meeting street: In making his visit to that patient, he saw the Abel family, who had been boarding in the house for 10 days. His opinion was asked, as the propriety of their leaving the city, as they were all strangers. He advised them by all means to go.

Mr Abel, made the following statement to us. He met his family in Charleston waiting for a vessel.—They had been in that city about a fortnight. They started on board the Schooner Stephen and Francis about the 12th of August, and arrived at Augustine on the 15th. There were many passengers on board; *Mr. Abel* from choice remained on deck part of the time occupied by the voyage, he took a *cold* and had a *chill*, but did not lay up. He used salts, and was well in a day or two.

On his arrival at Augustine, he put up at the City Hotel, but removed from thence to Col. Johnson's on the 16th. About the 1st September, *Mrs. Conklin* *also took cold*, her face swollen, she had a slight fever, used *snake root* and *salts*, and got well in a few days. At the same time, her daughter *Miss Conklin* was *ailing*, she is in delicate health—she also *took cold*, and

had a *slight fever*, used the *same remedy*, and recovered in a few days. After the arrival of the indians (14th September) Mrs. Abel and another Miss Conklin *were sick*, but got well without the assistance of a doctor.

Mr. Abel attributed the sickness of his family to the *fatigue of the journey* and cold, and adds with pleasure, that himself and family enjoy better health than they did at the north. He states further, that his trunks lay out on the 16th, no longer than was necessary to get them in. One box which was too heavy to be lifted, lay out until the next day, when it was unpacked and the articles which it contained were carried in by hand.

Mr. Antonio Andreo's family live next door to Col. Johnson, on the north side; they were the first taken sick after the Abel family. They recollect distinctly when that family came from Charleston, some time about the middle of August. They are not acquainted with them; but believe that some of them were sick, very soon after their arrival. The clothes of the Abel family were hung on the fence which separates Col. Johnson's lot from theirs, and also on the back piazza west side of the house; very soon after this the Andreo family sickened. The first case which occurred was on the 4th day of September, a day or two after the bedding, mattresses, etc. were hung on the fence, or put out in the balcony, and their trunks opened in the yard. The first case was taken with a chill and afterwards fever—during the chill he was very cold—hot bricks and brandy were applied to his feet. He also had vomiting nearly all the time. The fever lasted for nearly three days and was attended with bleeding at the nose. The patient continued in a weak state for

several days. 'The only medicine taken was olive leaf tea. This was a young man 18 years of age, born in the place. After the fever his skin and eyes were yellow. Mr. Andreo, the father,' took sick four days after his son. He is 59 years of age, a native of the place. His sickness commenced with a chill, pain in the head, back, and limbs, with uneasiness about the stomach. During the continuance of the fever he had bloody stools. His fever subsided at the end of the third day. Two days after the father, a child nine years old, was taken with pain in the limbs and vomiting—the fever lasted three days—Medicine olive leaf tea. On the same night Maddeline was attacked—she is 21 years of age. Her disease commenced with a violent pain in the head, back, and limbs, accompanied with chill. She did not vomit—her feet were bathed in warm water, and the olive leaf tea given. Her fever was strong for three days, and she continued feeble for five or six days. William, 16 years of age, was attacked with chill, pain in the head and limbs. For three days he had the fever severely, and then it became lighter. He also bled at the nose.

Mr. Domingo Circopoly's family live on the next lot west of Andreo's, and north west from Col. Johnsons—they recollect when the Abel family came, about the middle of August. They hung out their bed cloths, pillows, mattresses, etc. in their back piazza on the west side of the house. Their counterpanes and two mattresses were left in the rain. They thought this strange. The first case in Mr. Circopoly's family was a little boy, Domingo, which occurred on the 10th of September—his attack commenced with a chill, followed by severe fever, head ache, etc. The fever last-

ed *four* days. The next cases were Ramon, 7 years of age, and Emmeline, 10 years; in these the disease commenced with vomiting, head ache, pain in the limbs, etc. The fever lasted three or four days. Miss Rosalie, 16 years of age, had chill, head ache, vomiting and fever, which lasted for two days. Miss Jane 19 years of age, had the same symptoms and three days fever. The Abel family hung out their clothes for a week—they were put out by a man. The medicines used by this family, were the *Essencia Marvellhosa de Coroadá*, to produce perspiration, and afterwards *Le Roy*.

Mr. John Lott Philips, passed Col. Johnson's house three or four times a day, prior to the occurrence of the fever, and saw some of the Abel family putting out their clothes and bedding for several days. They were hung on the balcony and stair-case.

Mrs. Susanna Brown, has seen the Yellow Fever in Charleston. Her husband superintended the Hospital in Hampstead. She considers the disease of Augustine to be Yellow Fever. Two of her children were taken sick a day or two after Circopoly's family.—None of her children died—their cases were mild, and by no means as severe as the cases which followed.

The fifth house in which the disease occurred, was that of Mr. Lopez, next door north to Circopoly; the patient was one of Vincenti Pacety's child, and if we mistake not died.

General Hernandez, states the season of 1839, was warm and dry. There were some local causes, which might have had a tendency to render the atmosphere insalubrious, particularly on Bay street, within the sea wall, and between the market and the fort. There

was a good deal of made ground filled up with rubbish and shavings from the carpenter's shops, thrown in masses, and partially covered with shell and sand. In some spots it was so low as to retain water for some considerable time. There was a pond in front of his house, on the bottom of which on the subsidence of the water, a greenish appearance could be perceived, evidently the effect of decomposition. The salt water at high tide, would however pass through the sea wall and inundate to a great extent, this pond. There was also another pond between the General's house and the fort.

The General was not aware of the existence of any other sources of disease, unless they be sought in some of the gardens, where quantities of weeds had accumulated in lieu of the orange groves which formerly existed. He also thought that a more free use of lime was wanted. Thirty or forty cases of fever occurred in General Hernandez's family. No death took place, nor does he believe that there was a case of Yellow fever among them. He considered them ordinary cases of Bilious fever, which yielded readily to the proper administration of medicine. Most were taken with chills, followed by head ache, confined to the forehead; in some cases the eyes were red, pains in the back and limbs severe—no vomiting. The fever generally lasted from 24 to 72 hours, most commonly 36. One child 11 years old, bled at the nose. The patients complained of great debility on the subsidence of the fever. The youngest white patient was 11 years old. Some negroes were attacked as young as 3 or 4 months. The treatment was first an Emetic and afterwards cathartics. In one case of a negro, profuse bleeding

was resorted to. The convalescence was rapid with the whites, but more slow with the blacks.

Mr. Alvarez states that in 1839, the city was unusually healthy, until the occurrence of the fever, which was early in September. The first cases were at Col. Johnson's in the family of Mr. Abel, as he was informed. The next door neighbors on the north side were next affected; in that house several cases occurred but no deaths. They were principally young persons and children, natives. The next were at Domingo Circopoly's, Mrs. Brown's and General Hernandez's. Col. Johnson and a german named Pangle who lived at Col. Jonson's, were also taken sick. Pangle died, and he thinks was the first death. Mr. Loring had a wench employed at Col. Johnson's—she went home and took sick; soon after, the family in which she lived were attacked. Mr. Joseph Pacety, a neighbor of Mr. Loring, had the disease also in his family—two of his children died. Joseph Bennett, same square as Col. Johnsons, also had his children sick about the same time—no deaths.

Mr. P. B. Dumas, has resided at Augustine for eight years. He considers it to be a very healthy place. Is not aware of the existence of any endemic fever; occasionally cases of fever come in from the country.—During the year 1839, there had been some very hot days, but the season was not unusually warm, but rather dry, and there was but little thunder and lightning. There was no sickness until the fever broke out. He heard of cases at Gen. Hernandez's on the Bay, on the 10th September. He conversed with Mr. Abel on the 18th of November, who stated that on the passage from Charleston he slept on deck, and waked up one

night with a heavy chill, and had a slight attack of sickness, before or about the time of his arrival. He stopped one day at the City Hotel, and removed the next day to Col. Johnson's—five of his family were sick. Mr. Dumas was taken sick on the 22d of September. He heard a noise in the street, and got up to see what was the matter, and took a chill, and was confined to his bed for ten days. A few days after his son took sick. The next patient in his house was his second daughter, who was sick 6 or 7 days, and died with Black Vomit. About 6 days after her, his third and fourth daughters took ill—one recovered, the other died of Black Vomit in three days. His eldest daughter took sick at Mr. Boutan's, near the Catholic church—she had been in the house during the sickness of the other children, and was removed. She was attacked one or two days after her removal. He was in Baltimore when the Yellow Fever prevailed—did not however see any cases. His children were all born in Baltimore. The city was as clean as he ever knew it. He is Clerk of Council, and made it his business to go about and see to the police. There were no dead animals lying about, which was usually the case heretofore—no cause existed likely to produce sickness, as far as he could judge, except near the sea wall, where shavings had been thrown in a low spot, but into which the tide ebbs and flows through the sea wall. He thinks that the disease was brought from abroad. Had it depended on the state of the atmosphere, the inhabitants would have been affected more simultaneously—as it was, it commenced in the N. E. part of the town and passed progressively from house to house, in a westwardly direction, following the course of the wind.

Dr. Wm. H. Simmons, thinks that during the year 1839, the city was not less filthy than in 1821,—the police having been in a great measure abandoned since the war. The season was warm and unusually dry, with a prevalence of northerly and westwardly winds. The orange groves which had been destroyed by cold in 1835, had given place to a rank and luxuriant growth of weeds. There was also a kind of gully, lying within the sea wall, and a permanent salt pond near the Fort. This gully extended from the market nearly to the Fort ; some of the first cases occurred in this vicinity. He is not aware of the existence of any disease in the city prior to the appearance of the fever. He considered it a Bilious congestive fever of a peculiar type, being often signalized at the outset by perspiration, which was not productive of any benefit on the pulse, and often assimilated to a sweating fever. Dr. Simmons was not engaged in practice, but in the exigency of the times, was called to several patients—these cases were of the character stated above. He has heard of other cases which answered to the description of Yellow or Stranger's Fever, but thinks they were few. A very common symptom, was a very severe pain in the limbs. In some cases there were remissions. In his practice he relied principally on mercurial purgatives, which seemed to arrest the congestion of the liver. There was a very marked distinction in the case of Strangers and Natives ; the former being attacked with more severity—their cases of course were more unmanagable, and terminated more frequently in death. Several children also died of the disease, and were among the first cases—but few adult females were attacked. The Doctor is not aware of

any adult native having died. Dr, Simmons does not believe the Yellow Fever to be contagious, but considers it as locally generated in maratime situations, by the concurrence of heat, and a season of general unhealthiness, with vegetable and animal putrefaction, and then only, when these causes operate on constitutions uninured to their action.

Dr. Weightman of the U. S. Army, does not hesitate to express the opinion, that the disease which prevailed at Augustine in 1839, was the Yellow Fever, such as he has seen it at Natchez and New Orleans. The patients were generally attacked with pain in the head, back, and extremities, and the disease when not arrested in its progress, terminated in yellowness of the skin and black vomit. The Doctor was himself sick part of the time, and so much occupied, that he had no leisure to make P. M. examinations. He considers Augustine to be very healthy—there is no form of fever endemic to the place. Most of those which occur, are contracted in the adjoining settlements, and are of an intermittent or remittent form. He is not prepared to express an opinion, as to the cause of the fever of this season, with the exception of the atmosphere.—He has not remarked any particular local causes peculiar to the season, which did not previously exist, with the exception of the low ground lying within the sea wall near the Fort, where some filling up had occurred, and where the disease originally commenced.

In regard to the cases from Charleston he knows nothing. None of the indians from Charleston died of the epidemic. A few of the soldiers who were stationed at the Fort, as a guard for the indians, had the

fever—one of the sergeants from Charleston is now sick with it at the Hospital, and will probably recover.

The Doctor has noticed a marked difference in the cases of natives and strangers—the former yielded much more readily to treatment. He did not loose a patient among the natives. He does not believe the disease to be contagious—has formed no opinion as to its transmissibility. He cannot possibly be mistaken as to the character of the fever, as he has seen it before. The season of 1839 was warm and dry—the musquetoes were very bad.

Dr. Weedon, has resided here for nearly seven years ; with this single exception, the place has been uncommonly healthy. Two winters ago the influenza prevailed, but was not fatal. The measles and other diseases were brought by troops in 1836, as well as the scarlet fever. There is no particular fever endemic to the place. Country fever is some times brought in from the plantations. The season of '39 was hot and dry, but very healthy ; nothing like an endemic appeared, nor were there any indications of disease up to the middle of September, when a fever broke out in the N. E. part of the city, near the Fort, which extended westwardly across the town, the direction of the wind being generally from N. E. The Doctor has seen the Yellow Fever for 20 or 30 years, at Havanna, Baltimore, Natchez, & Baton Rouge. The first cases that he saw were among children—a congestive fever, with great determination to the head, and evidently of an alarming character. The first case which he was enabled to say had assumed the character of Yellow Fever was Antonio Boerhause, and did not see him until after death.—Went to look at his body in consequence of

having heard of particular symptoms which attended his case. His skin was yellow—on his neck and breast purple spots; there was profuse hemorrhage from his mouth, nose, eyes and ears, running down upon the floor—saw clothes also on which he had thrown the black vomit immediately preceding his death. The Doctor attended the following cases which terminated fatally—a daughter of Mr. Sanders, 11 years old—would take no medicine, being delirious—she died the third day of the disease with black vomit. Five others of this family also had the disease, but recovered.

The Rev'd Mr. Henderson died with black vomit on the 5th day. Bailey, a young man 22 years of age, died 12 hours after first visit, on the 4th day of disease, with black vomit. Jacob Brown died with hiccough, no black vomit ejected, but a decided case. Freeland died on the 4th day—black vomit. Capt. M'Crabb of the U.S. Army died on the 5th day with black vomit. Lieut. Rodney died on the 7th day, also black vomit.

Dr. Weedon spoke with Dr. Peck before the fever occurred, and pointed out the low spot, as a probable source of disease, early in the season. The city was in general so very healthy, as to induce many to neglect giving proper attention to police. He thinks the disease arose from this cause;—Does not believe Yellow Fever to be contagious, but will not pretend to say but what under certain circumstances, the disease may be transmitted from one place to another. He was so well satisfied as to the character of the disease, that he proclaimed it early, and warned strangers to depart, and recommended that they be notified.

Dr. Peck, has been living in Augustine for nearly 5 years, considers it very healthy. 'There is no endemic

form of fever. The measles and scarlet fever were introduced by the army in 1836, and prevailed for a season. In 1839 the place was remarkably healthy, up to the time of the fever, which occurred about the middle of September. The season was warm and dry.—A few weeks prior to the appearance of the fever the house fly disappeared. Dr. P. considers that there were abundant local causes for the production of fever, particularly in the low spot of ground lying within the sea wall, from the Fort to the Market. There were a few cases of dysentery about the last of August and early in September. The Doctor has seen during the season a few cases of what is generally termed Yellow Fever—most of the cases in his practice were of a congestive and inflammatory character, but he is not prepared to say that they were Yellow Fever. The earliest cases which he saw occurred about the 13th of September, on Bay Street, near the sea wall, at General Hernandez house. Two cases of slight disease are reported as having occurred about the 1st of September, in the family of Mr. Abel; and subsequent to the arrival of the Indians, three *distinctly* marked cases from the 20th to the 25th of the same month. This family arrived from Charleston on the 15th of August. The disease appeared in every family but two, on Bay street before the first of October, then took a westwardly direction, and passed into Charlotte Street before that date, from whence it gradually proceeded from day to day to the western part of the town.—Few cases were observed below the market square before the 13th of October. The Doctor never saw the Yellow Fever before—he does not believe the disease to be specifically contagious, but under particular cir-

cumstances thinks that fevers may become contagious, or rather capable of transmission in a vitiated atmosphere. For instance cases of goods or clothes transmitted from one port another, may convey a sufficient quantity of Malaria to infect one or more persons engaged in unpacking them—but if the atmosphere be healthy, the disease will not extend beyond them. If on the other hand the atmosphere be vitiated by local or other causes, the disease may be propagated to others.

A marked distinction was observable in the fever of Augustine between Strangers and Natives. The disease as a general rule being more mild in the latter than the former—children being of course classed with strangers. It is said that Mr. Brown, near 70 years of age, died of black vomit. He had been for many years a resident on the St. Johns, and lived about town for several years. Two children, one three and the other six years of age died, also two Miss Dumas, one 14, the other 16 years of age, who had been residents for several years. Dr. Peck attended upwards of 300 cases, among whom were 15 deaths.

Dr. Charles Byrne, has resided at Augustine twelve months, and testifies as to the health of the place up to the time of the occurrence of the epidemic. The population is about 3000, and he never saw a place so exempt from disease, in proportion to the number of inhabitants. The season was hot and dry, and he was informed that there was an unusual prevalence of westerly winds. He thinks the police of the city was bad, but as he understands, no worse than on former occasions. He thinks that the quarter in which the epidemic broke out is the dirtiest of the city, but did not see any thing in the low spot between the sea wall and

the town, which was particularly calculated to excite or produce fevers, as the ebbing and flowing of the tide by which it is covered with salt water, would be likely to prevent the generation of miasma.

Dr. Byrne never saw the Yellow Fever before; he saw several cases of what he considered black vomit, and heard of several others. He thinks that the natives were more lightly affected than strangers. He is not aware of the death of a single adult native, although many children died. The cases were sometimes preceded with chills, but frequently with pain in the head and limbs without any chill; as far as he observed, it was a fever of one paroxysm, generally terminating on the 3d or 4th day. He believes that if the atmosphere of a place from general or local causes be such as is calculated to generate a predisposition in the inhabitants to some epidemic form of fever, that then the introduction of cases of yellow fever would be calculated to give that particular form to the disease, where perhaps under other circumstances, it would not have occurred. If on the other hand the yellow fever was imported into a healthy atmosphere, where no predisposition to disease existed, it would cease with the subjects by whom it was introduced.

Mr. John C. Cleland resides in the North City, which is out side of the City gates, and from 3 to 400 yards north of the Fort, on the Matanza River. There are 9 or 10 houses, very much detached. It is the establishment of a new settlement, or addition to the old city. During the prevalence of the fever at its highest stage, neither himself nor any of his family had communication with the city, and none of them were taken sick. Whatever necessaries were required, were

brought from town by a negro man. He took sick, and had the fever severely. He was put in a house in a back lot with separate inclosure, from 80 to 100 feet distant from the dwelling house—no communication was held between this patient and any of his family, and none took sick. Mrs. Wilkison, residing next door to Mr. Cleland, was similarly situated and escaped also. Mr. C. was under the impression that the disease was *imported*, and for this reason kept his family out of town. He knows nothing from his own observation of the Abel family, but the first cases were traced to them at Col. Johnson's, from whence it spread immediately to the neighboring houses, and ultimately to the whole city. Mr. C. has lived at Augustine for several years, and considers it as healthy as any place in the world. There is no endemic fever, some cases of country fever occasionally. Immediately preceding the irruption of the fever, the city was as healthy as usual. The weather had been warm and dry—the city police much as usual. He is not aware of any local cause which could possibly have originated the disease; there was certainly none in the North City.

What other conclusions can we deduce from this evidence but these—that the Abel family in Charleston, resided in a house where yellow fever existed, and where of course, their bedding, clothes, etc. were exposed to the infection or contagion of the disease—that they left there in order to avoid it—that they arrived at St. Augustine, and that on the passage Mr. Abel was sick—that they took up their lodging at Col. Johnson's house, where Mrs. Conklin and her daughter also sickened, we are inclined to think before the 1st of September, for some of the witnesses tell us, that

they took sick very soon after their arrival—that they hung out their bedding and clothes in their balcony on the west side of the house, and on the north fence which separates the lots of Messrs. Andreo and Circopoly from Col. Johnson's, and that a few days after (say the 5th of September) Mr. Andreo's family was attacked; and on the 10th of the same month Mr. Circopoly's family sickened. From this nucleus the disease spread in the direction of the wind, enlarging its sphere of action as it progressed, and embracing all who came within its range, striking down however more particularly, the young and stranger.

Having swept across the northern part of the city, the disease then took a southerly direction, as but few cases occurred below the market square prior to the 13th of October—having crossed this square it finally extended the whole length of the city.

In order, however, to enable the reader to form a more accurate idea of the spread of the disease, we have prepared a chart of that portion of the city in which it appeared, and have numbered the houses successively in the order that their inhabitants were attacked, *thus*,

- No. 1 Colonel Johnson's,
- 2 Mr. Antonio Andreo's,
- 3 Mr. Domingo Circopoly's,
- 4 Mrs. Brown's,
- 5 Mr. Lopez, (*one of Pacety's children*),
- 6 General Hernandez.

So far the disease could be distinctly traced; finding however, that beyond this point, it began to manifest itself in several houses at once, we thought that the at-



- Plot numbers
- Nº 1 Col. Johnson's
 - 2 M. Antonio Andrea's
 - 3 M. Domingo Circopely's
 - 4 M^{rs} Brown's
 - 5 M^r Lopez
 - 6 Gen. Hernandez

PLAN
of the
NORTHERN PART
of the
CITY of ST. AUGUSTINE
When laid off by the U.S. Army

tempt to follow it further would only be calculated to involve ourselves and the reader in confusion.

In regard to the testimony of Mr. Abel, we would remark, that we believe he was disposed to speak the truth, but at the same time to represent the cases in his family 'as light as possible. Some unfeeling and ungenerous remarks had been made upon his family, and an effort made to attach some odium to them as the introducers of the fever. *Such a suggestion could only have originated in some narrow and perverted mind. How could they possibly avoid or prevent that, which must be considered in the light of an act of Providence? *Dr. Peck*, however states that *three* decided cases occurred in that family *after* the arrival of the indians. It is proper perhaps, for us here to state something about these indians.—They were in number about forty, and were stationed at Castle Pinckney, Charleston harbor, during the prevalence of the fever with us. They were guarded by a detachment of U. S. soldiers. The indians and soldiers were permitted to visit the city, and several soldiers sickened and died at the Castle. On or about the 10th of September, the remainder, with the indians left Charleston harbor, and arrived at St. Augustine on the 14th. We have no doubt that they carried with them the seeds of the disease. Some precautions were taken in landing them at the Fort, and some difficulties were offered to their landing, by the civil authorities. As however, the fever had occurred in the Abel and other families prior to their arrival, they could not be accused of the introduction of the disease, although we entertain no doubt that they contributed to propagate it, more especially, as many persons, particularly children, led by curiosity

went to the Fort to see them. This seems probable from the statement of *Dr. Weightman* of the U. States Army, who informs us, that “a few of the soldiers stationed as a guard at the Fort had the fever, and one of the Sergeants from Charleston is now sick.” *Dr. Peck*, seems to dwell with peculiar emphasis upon the fact, that the three decided cases occurred in the Abel family, subsequent to the arrival of the indians, as though he would have us infer that they contracted it from that source, or at all events, he endeavors to throw some doubt on the manner of its introduction. Let it be so, but it must also be borne in mind that if they could contract the disease from the indians, other persons might have done the same. It may be objected, that the cases in the Abel family were too mild to render it probable that the disease could have been propagated from that source. Let it however be remembered that the first cases in the adjacent houses were also very mild; in Mr. Andreo’s family not one died, although they had no Doctor—nor in Mr. Circopoly’s, nor in Gen. Hernandez. There is another strong point, which is the *identity* of the disease which prevailed in Charleston, and St. Augustine, viz the *Broken Bone fever* for the *natives*, and *Yellow Fever* for *strangers*, and that circumstance has led us to suspect that there is an identity in the cause which produces the two diseases, and that the modification in the character of them, is caused by the difference in the constitutions of natives and strangers. It is a well known fact that many cases of Broken bone fever in Charleston, were mistaken for Yellow Fever and vice versa. We will add one more consideration; if Mr. Abel had not suspected that his family were sick of the Yellow Fever, why did he administer

the *snake root and salts*, the popular remedy for that disease in Charleston, and if he did not suspect some infection in his clothing, why were they so repeatedly hung out, and for such a length of time.

After an impartial investigation of all the occurrences which took place, and making all due allowance for the prejudices of the parties concerned, we do not hesitate to express our belief, that the disease was transmitted to that place from Charleston.

From the facts and observations which we have already presented, the reader will now, perhaps, be able to accompany us, whilst we proceed to show the manner in which the Yellow Fever of 1839, was introduced into the city of Charleston.

The great error into which those have fallen, who contend for the *local origin* of the disease, during that season, consists in their supposing that we attribute the introduction to the *Ship Burmah*. So far from this being the case, we believe that the disease would have occurred had that vessel never arrived here, as there were abundant other sources equally capable of producing it. We look upon the arrival of that vessel at the time she did, as a fortunate occurrence for our doctrine only so far as this, that it was calculated to direct public attention to the particular *source* from whence the disease came, and this will be made manifest, when we state that from the first of May to the 30th of July inclusive, there were no less than 36 arrivals from infected ports in the West Indies. Now we consider each of these vessels a source of infection, for they arrived in our harbor with the epidemic atmosphere of the places from whence they came hermetically seal-

ed up in their holds; not only so, but many of them were laden with fruit, vast quantities of which had rotted in their holds prior to their arrival, the effluvia from which must have added greatly to the virulence of the poisonous atmosphere, with which they were freighted.

List of Vessels arriving in Charleston from the West Indies from the 1st May to the 31st July, 1839.

1 May 2.—Brig Caspian, Capt. Swassey, 6 days from Havanna; cargo, Molasses, Fruit, etc.—Gibb's Wharf.

2 May 8.—Schooner Financier, Capt. North, 6 days from Havanna; cargo Fruit Coffee, etc. Exchange Wharf.

3 May 9.—Brig John C. Calhoun, Bullen, 4 days from Havanna; cargo Fruit, Sugar and Coffee. Exchange Wharf.

4 May 10.—Brig Howell, Smith, 4 days from Matanzas; cargo Sugar, Fruit, etc. Central Wharf.

5 May 16.—Brig Chili, Ward, 5 days from Havanna; cargo Sugar, Fruit, etc. Magwood's Wharf.

6 May 27.—Brig Delaware, Ross, 7 days from Havanna; cargo Molasses, Sugar and Fruit. Exchange Wharf.

7 May 31.—Ship Medora, Pike, 6 days from Havanna; ballast. She lay in Roads and Stream.

8 May 31.—Schooner Wave, Sully, 7 days from Havanna, via Key West; ballast. Gibb's Wharf.

9 June 1.—Ship Copia, Knight, 4 days from Matanzas; ballast, in Stream.

10 Brig Daniel Webster, Adams, 5 days from Havann; Molasses, Fruit, etc.

11 June 5.—Brig Hunter, Bonny, 4 days from

Matanzas ; cargo Molasses, Fruit, etc. Magwood's Wharf.

12 June 7.—Ship *Burmah*, Webster, 5 days from Havanna ; ballast—in stream.

13 June 8.—Schooner *Susan*, Taylor, 4 days from Havanna.

14 June 9.—Barge *Alliott*, — from Havanna, via Savannah ; Commercial Wharf.

15 June 11.—Brig *Globe*, Fessender, 5 days from Neuvitias ; cargo Sugar, etc.

16 Brig *Catharine*, Rose, 4 days from Havanna ; cargo Sugar, Fruit, etc. Exchange Wharf.

17 Brig *Orono*, Chase, 4 days from Matanzas ; cargo Molasses, Fruit, etc. Price's Wharf.

18 Brig *Bridgeton*, 6 days from Matanzas ; cargo Sugar, Fruit, etc. Central Wharf.

19 June 17. Ship *Lowell*, Whipping, 5 days from Havanna.

20 June 19.—Brig *Lancet*, Cruise, 5 days from Havanna ; cargo Molasses, Fruit, etc. Fitzsimon's Wharf.

21 Brig *Caspian*, Swassey, 5 days from Havanna ; Molasses, Fruit, etc. in Stream.

22 June 19.—Spanish Steamer, *Al Mendarez*, Peryra, 68 hours from Havanna ; no quarantine ; Fitzsimon's Wharf.

23 June 21.—Ship *Merchant*, Jordon, 5 days from Havanna ; ballast ; quarantine 1 day.

24 June 27.—Brig *John C. Calhoun*, Bullen, 4 days from Havanna, Sugar, Fruit, etc. Quarantine 2 days.

25 June 28.—Brig *Howell* ; Sugar, Fruit, etc.—Quarantine 2 days, then lay at Central Wharf.

26 July 5.—Spanish Brig Andalusia, ballast; five days at Quarantine.

27 July 6.—Schooner Ostrich; Sugar, Fruit, etc. Quarantine 1 day.

28 July 7.—Brig Chili; Sugar, Fruit, etc. Quarantine 1 day.

29 July 10.—Schooner Financeer; Sugar, Fruit, etc. Not reported at quarantine, probably a few hours.

30 July 18.—Brig Matilda; Fruit, etc. a few hours quarantine.

31. July 19.—Brig Daniel Webster; Fruit, etc. 3 days quarantine.

32 July 27.—Brig Tecumseh; Fruit, etc. 2 days quarantine

33 July 30.—Br. Ensaydor, in distress, not quarantined.

34 Br Howell; Fruit etc. 1 Aug. 1 day quarantine.

35 Br. Arabian do 1 " 1 do do

36 Catharine do 1 " 2 do do

On the 7th of June, 1839, the first cases of Yellow Fever which occurred in Charleston, were brought to the Marine Hospital. They came from on board the Ship Burmah, Webster. That vessel left Havanna on the 1st of June. At the time of her departure the Yellow Fever was making fearful ravages among the crews of the shipping in harbor. The Cook died at Havanna and the mate on the 2d day out. On that same day, the 2d of June, Benjamin Cobb, and J. W. Shute were attacked, and J. W. Simondson on the 5th of June. The Burmah arrived in our harbor on the 7th of June. These persons were landed in the city

and brought to the Hospital late in the evening,* whilst the Ship continued to lay in the stream, until the 22d July, when she hauled to the Commercial Wharves, where she lay until the 4th of July.† In regard to the patients sent to the Hospital, Cobb had the black vomit in one hour after he entered the Hospital, and died in less than 24. Shute died also on the 8th of June, with black vomit. Post mortem examinations were made, which enabled us to declare that they were both decided cases. Simondson who came on the 2d day of disease, although very ill, recovered and was discharged from the Hospital on the 22d of June.

On the 17th of June, Cyrus Rider, G. Thorne, and Lawrence Schmidt, were brought in from on board the Leonore. Ryder and Thorne came in on the 4th day of their disease, and both died with black vomit.—Schmidt who came in on the 2d day, was discharged cured. The Ship Leonore arrived in harbor on the 7th day of June, after a passage of 11 days from Boston.* She lay in the stream all the time, and Schmidt one of the patients never landed in the city of Charleston until brought ashore sick. The Leonore lay in the stream 200 yards from the shore, and opposite to the Central Wharf. The ships Burmah, Medora, and

* At 10 o'clock that night, we addressed a note to Dr. Thomas Y. Simons, the Port Physician, informing him of the facts, respectfully suggesting to him the propriety of Quarantine, and offering to *co-operate* in any measures which he might deem proper for the preservation of the health of the City.

† During that period, one case of fever occurred on board the Burmah, and 12 cases in five vessels that lay contiguous to her.

* This vessel was officially inspected, and pronounced perfectly clean, no sources of disease on board.

Copia, from Havanna and Matanzas, also lay in the Stream during the same period. We have not been able positively to trace any communication between the Burmah and Leonore. But as they were both Boston ships and Boston Captains, one coming from home and the other from a foreign port, it is reasonable to suppose that some curtesies and enquiries must have passed between them.

On the 17th of June, Edwin Agerry from on board the Ship Chatham, came in on the 3d day of the disease, and died with black vomit. The Ship Chatham arrived on the 7th June, in eleven days from Boston, and lay in the stream from the 7th to about the 10th of June with Ships Medora, Burmah, and Copia, at which time she hauled to the Central Wharf, where she lay when this case occurred. At the same wharf was the Brig Bridgeton from Matanzas. She came in on the 11th June.

On the 19th June, Fleming Droft from on board the Ship Elizabeth Bruce, came in on the 2d day of disease, and was discharged cured. The Elizabeth Bruce arrived from New York on the 7th of June, after a passage of 7 days. She lay in the Stream with the Burmah, Copia, and Medora, from the date of her arrival until about the 17th of June, when she hauled to the head of Central Wharf. At that wharf lay the Brig Bridgeton from Matanzas.

On the 21st June, William Nelson and David B. Craig, came in from the Ship Silas Richards—both discharged cured. That ship arrived in harbor on the 6th of June, after a passage of 9 days from New York. She lay at the Central Wharf. On the 11th of June the Brig Bridgeton from Matanzas came to that wharf,

and on the 19th the Brig Lancet, and Spanish Steamer Al Mendares hauled to Fitzsimons', the next wharf north.

On the 22d June, Thomas Hemman came in on the 2d day of disease, and was discharged cured. The Chatham lay in the Stream on the 7th June with the Burmah, Copia, and Medora. The Chatham arrived from Boston on the 7th June in 11 days passage; on the 14th she lay at the Central Wharf with the Brig Bridgeton from Matanzas; on the 19th June, the Brig Lancet from Matanzas, and Spanish Steamer Al Mendares, 68 hours from Havanna, hauled in at Fitzsimon's, the next Wharf north of her.

On the 22d June, Benjamin Cummings, came in from on board the Ship Grafton—he died with black vomit. The Grafton lay at Boyce's Wharf; while there the Brig Catharine from Havanna lay at the Exchange Wharf, next north of her. About the 15th of June she hauled to Fitzsimon's wharf, and on the 19th the Brig Lancet and Spanish Steamer Al Mendares lay at the same wharf, and the Brig Bridgeton at the Central, the next wharf south.*

On the 22d June, Clark Sherman and Thomas Emery came in from on board the Ship Thomas Bennet; and were both discharged cured. The Ship came from Liverpool. She lay at the Commercial Wharves.—The Ship Burmah hauled to that wharf on the same day, and the Barque Alliot had been lying there for some time.

On the 24th June, Henry Brown came in on the 3d

* We have here traced six cases as occurring in five days, in the immediate vicinity of the the Brigs Bridgeton and Lancet, and the Spanish Steamer Al Mendares.

day of disease, and Peter Nelson on the 2d day—Nelson was discharged cured, and Brown died with black vomit. The John Anderson arrived from Liverpool on the 13th June. She lay in the stream with the Havanna vessels, and on the 29th June was at Boyce & Co's wharf, the Brig Catharine being at the Exchange Wharf, next north.

On the 24th June, Arthur Webster came in from the Ship Charles Carrol and was discharged cured. The Charles Carrol lay in the Roads near the Ship Medora from Havanna.

On the 24th June, Manuel Frances came in from the same vessel, with some other disease, and took the fever in the Hospital on the 28th June.

On the 24th June, Martin Clark came in from the Ship Silas Richards. She lay in the Stream on the 14th June, and afterwards hauled to the Central wharf, where the Bridgeton, Lancet, and Spanish Steamer Al Mendares lay on the 19th June.

On the 25th June, Paul Jamie, came in from on board the Ship Chatham. She lay at the Central Wharf from the 14th of June. The brig Bridgeton at same wharf, and brig Lancet and Spanish Steamer Al Mendares at Fitzsimons, the next wharf north from the 19th.

On the 25th June, Founmouse a boy, came in from the Ship Bonne Amie lying at Knox's wharf from the 14th June.

On the 26th June, Samuel Humphreys, a native of old Spain, came in from a boarding house in Market Street, kept by Jacobs. He arrived on the 19th June on board the brig Caspian, from Havanna, and was landed in the city before taking sick. The brig lay in

the stream opposite to Fitzsimon's wharf for three days, when she left for New York. We have no doubt he contracted the disease in Havanna. He died on the 3d of July with black vomit. This case is remarkable as the first which occurred in the city.*

On the 28th June, Hiram Windsor and Thomas Onart came in from on board Ship Denmark—both discharged cured. The Denmark lay at the Commercial wharves with the Barque Alliot and Ship Burmah.

On the 1st July, John Thompson came in from on board the Ship John Anderson, and was discharged cured. On the 14th June she lay in the Stream with the Burmah; on the 22d June at Boyce & Co's wharf. The brigs Catharine and Delaware at the Exchange wharf, next north.

On the 1st July, Joseph Oldbert came in from on board the Ship Burmah; he came from New York in the brig Constitution, and shipped on board the Burmah in Charleston, four days before he took sick.†

On the 1st July, Henry Gazon came in from on board the Ship Bonne Amie. She lay at Knox's wharf.

On the 2d July, Henry Wilson came in from on board the Ship Denmark—on the second day of his disease; he died on the 6th July with black vomit.—The Denmark lay at the Commercial Wharves with the barque Alliot and Ship Burmah.

* See Dr. Mackey's letter concerning the cases brought from Market Street Boarding Houses to the Poor House.

† At page 175, third line from the top, an error has occurred in stating that the Burmah hauled to the Commercial Wharves on the 22d July instead of the 22d June.

On the 2d July, Joseph Symm came in from on board the Ship John Anderson—he was discharged cured. The John Anderson was in the Stream on the 14th June with the Burmah; on the 22d June at Boyce & Co's Wharf—the brig Catharine from Havanna at the Exchange Wharf, next north of her.

On the 3d July, William Finch came in from the same vessel, and was discharged cured.

On the 3d July, Nathaniel Long came in from on board the ship H. Allen, one of the New York packets, lying at Boyce & Co's Wharf. The brigs John C. Calhoun, and Delaware from Havanna at the Exchange Wharf, next north.

On the 5th July, Roger Green came in from on board the barque Shakespeare lying at Hamilton's Wharf; he died on the 9th with black vomit.

On the 5th July, John Manuel came in from same vessel—had the black vomit and recovered.

On the 5th July, James Melon came in from same vessel with some other disease, and after remaining several days in the Hospital, took the disease in that institution.

On the 6th July, James Williams came in from on board the same vessel and was discharged cured.

On the 10th July, Jno. Mundell came in from on board same vessel and was discharged cured. Here were five cases occurring in the space of a few days. The Barque Shakespeare lay at Hamilton & Co's Wharf, where it must be recollected, that a local cause of disease existed at the foot of Tradd street, which had been repeatedly presented as a nuisance, and yet no cases occurred in its vicinity for more than three weeks.

On the 8th July, Antonio Joseph and Philip Leon-

ard from on board the ship Sutton, came in. The Sutton lay at Boyce & Co's Wharf until the 5th July, when she hauled to Smith's wharf at the upper part of the town.

We here close our notes in reference to the shipping, as it may readily be supposed that the general atmosphere of the wharves had by this time become infected. Not only so, but the disease had already begun to extend its ravages into the city.

We have brought our records up to the 10th July, at which time the disease had not only become generally diffused among the vessels, but had also made its first progress into the city. We think that we have pointed out three centres from which the disease originated. In order, however, to render this more evident, we will present a synopsis of the cases originated by each.

FITZSIMONS AND CENTRAL WHARVES.

At the Central Wharf the brig Bridgeton from Matanzas, lay on the 7th June. On the 17th June one case was sent to the Hospital, Edwin Agerry, from Ship Chatham, lying at same Wharf—The ship Leonore lying in the Stream two hundred yards opposite Fitzsimons's wharf, furnished 3 cases, Ryder, Thorne and Simondson on the 17th day of June—2 taken sick the 13th, and one the 15th. On the 19th June the brig Lancet and Spanish Steamer Al Mendares hauled to Fitzsimons wharf, both from Havanna, and the brig Caspian from the same port lay off the head of that wharf and landed some passengers. On the 19th June, Fleming Droft from the ship Elizabeth Bruce, lying at Central Wharf was attacked. On the 22d Thomas Hemman of the ship Chatham, same wharf.

On the 22d Benjamin Cummings of the Ship Grafton, at Fitzsimons wharf. On the 24th Martin Clark from the ship Silas Richards, Central Wharf, and Paul Jamic, ship Chatham, same wharf. Here we have 9 cases occurring from the 17th to the 24th June, within an area of 200 yards, and from that time the disease seemed to abate.

Let us now proceed to the next source of introduction, viz. the vicinity of Exchange Wharves, and here we will find events precisely correspondent.

The Brig Daniel Webster from Havanna, lay at that wharf from the 7th June and after. On the 11th June, the brig Catharine, on the 21st June the brig John C. Calhoun, and on the 10th July the Schooner Financier;—these vessels all discharged their cargoes at this wharf. On the 24th June, Henry Brown and Peter Nelson, on board the John Anderson, took sick at Boyce & Co's. wharf, next south of the Exchange.—On the 2d July Joseph Symm on board the John Anderson at Boyce & Co's Wharf. On the 3d July, William Finch from the same vessel. On the 3d July Nathaniel Long from the ship H. Allen, same wharf; and on the 8th July Antonio Joseph and Philip Leonard from ship Sutton, which vessel lay at Boyce & Co's wharf until the 5th of July, when she hauled to Smith's. Here again we have seven cases of fever occurring in the space of 12 days in an area of 200 yards, and in the very centre of the West India trade.

Let us lastly take the facts in connexion with the Commercial wharves. The Barque Alliot from Havanna lay there from the 14th June to the 28th—on the 22d June the Ship Burmah, which had been lying in the Stream, hauled to this wharf. On the 21st a

case occurred on board the ship *Parthenon*, Asa Belden lying at Vanderhorst's wharf next north. On the 22d June, Clark Sherman and Emery took sick on board the *Thomas Bennet*. On the 1st July, Joseph Oldbert on board the ship *Burmah*. On the 2d July, Henry Wilson took sick on board the Ship *Denmark*, at the Commercial wharf. On the 28th June Hiram Windsor and Thomas Onart from ship *Denmark*.

These were all of the first cases which occurred among the shipping, with the exception of Arthur Webster and Manuel Francis, who came from on board Ship *Charles Carrol*, on the 24th June, lying in the stream near the ship *Medora*. Henry Gazon and Fomouse from *Bonne Amie* at Knox's wharf, and 4 cases from the *Barque Shakespeare*, lying at Hamilton's Wharf.

The facts which have just been stated in reference to these three sources of disease must be borne in mind, whilst we proceed to show in confirmation of our views, the manner in which the fever was carried into the town by four different routes, each leading from these points. We commence first with Fitzsimons and the Central wharf. Samuel Humphries from on board the Brig *Caspian*, was landed on the 19th June and took up his lodging in the house of Jacobs, in Market Street, where he took sick on the 24th June, & this was the first case in the City. On the 7th July Beltzung took sick at the house of Baptiste from 4 to 6 doors west of Jacobs, and on the same side of Market street.

We have been politely furnished by Dr. A. G. Mackey with the following statement, in reference to Patients taken from these houses to the Poor House.

CHARLESTON, February 27th, 1840.

DEAR SIR,

In compliance with your request of yesterday, I have referred to my note book at the Hospital of the Alms house, during the prevalence of the Epidemic of last summer. I find it there recorded that of the five cases which first entered the Hospital attacked with Yellow Fever, four were from the South side of Market street a few doors from State street. These patients were John Dyer admitted on the 10th of July, who died on the 13th. Shoo and Deley admitted on the 25th and Clark on the 27th. There were two Boarding houses situated in the near neighborhood of each other, and in the vicinity already referred to, appropriated to the accommodation of Mariners and labourers. It was from these houses that the patients whom I have enumerated were received, and although I subsequently ceased to record regularly the previous residences of my patients, I yet have a distinct recollection that during the earlier period of the epidemic, a majority of its victims were derived from these Boarding houses.

I remain, with great esteem,

Your ob'dt serv't.

A. G. MACKEY, M. D.

DR. B. B. STROBEL.

The following cases occurred among the first in the City, and in connexion with the source at the Exchange Wharf:—Mr. Le Caron on the 14th of July, who lived in Tradd Street, and whose counting house was on the South side of Exchange Wharf; two clerks of Stevens, Henderson & Adger, corner of Gillon street and East Bay, leading down between Exchange

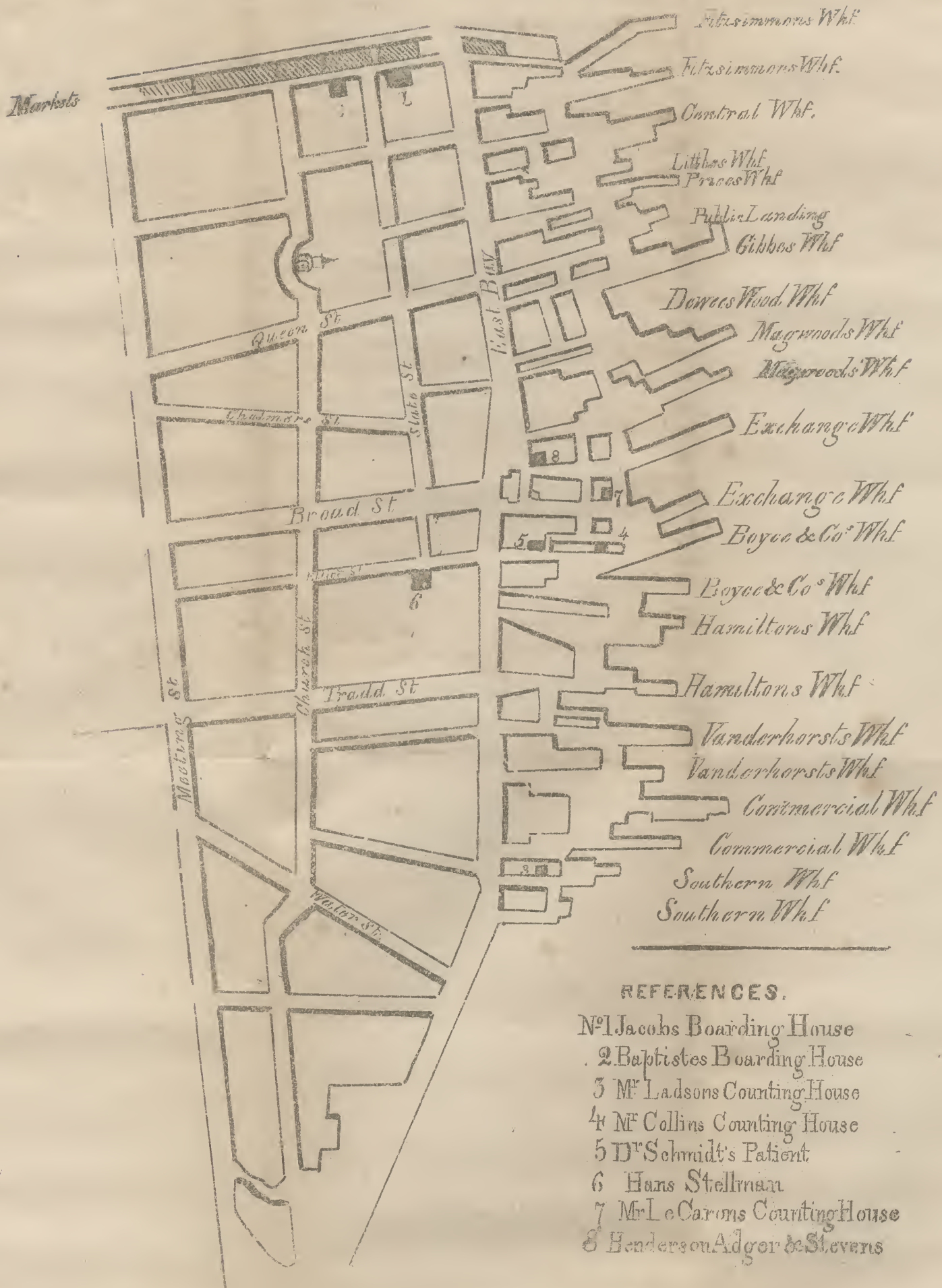
and Magwood's wharf. Mr. Le Caron took sick at Sullivan's Island where he had been spending the day. Mr. Bayard, one of the clerks alluded to, was attacked about the 7th July at his boarding house in Broad street. We are informed by Dr. E. Geddings, one of the attending Physicians, that it was a well marked case, and terminated fatally. All of these were persons of the highest respectability, and most correct habits. The same may be said of Dr. Collins, who was attacked on the 16th July. His residence was at the corner of St. Phillip and George streets, his counting house was on Boyce & Co's Wharf. Hans Stellman a patient brought to the Marine Hospital on the 10th July, resided in Elliot street which leads to Boyce & Co's wharf, where he had been boarding for 3 weeks. He came from Apalachicola in the Belvidere. A patient of Dr. J. W. Schmidt, was taken sick on the 8th of July, and died on the 13th, in Elliot street continued, the north avenue to Boyce & Co's wharf. In reference to the Commercial Wharves we are only able to cite one case, that of Mr. Ladson's son, an amiable and estimable young gentleman, who died. He was engaged in his father's Counting house on the Southern wharf, and was attacked as early as the 2d or 3d July.

Such then was the commencement of the Yellow Fever in the city of Charleston during the year 1839. Who that will take the trouble to review all the facts which have been stated, can remain in doubt as to the source of the disease? Prior to its occurrence, the city was as healthy as usual, which can be readily proved, by a reference to the Bills of mortality, published weekly by the Board of Health.—All of a sudden however, on the 7th day of June, three cases of Yellow Fever were in-

roduced into the city by the ship *Burmah* from Havana, and then we learn for the first time, that the disease had been prevalent in that port as well as in Matanzas, as early as May. In ten days after the arrival of the *Burmah*, 3 cases are presented by the ship *Leonore*, and 1 by the ship *Chatham*. These vessels were both from Boston, that port as well as their crews being perfectly healthy at the time of their departure. They are officially inspected and pronounced perfectly clean and healthy, so much so, that they were released from quarantine which had been imposed. The *Leonore* lay in the Stream the whole time from her arrival,* and one patient Simondson never landed in Charleston. How then shall we account for the occurrence of these cases? From local causes? Certainly! But local causes which consisted in their vicinity to vessels recently from Havana and Matanzas, laden with the epidemic atmosphere of those places, and rotten fruit. But it may be urged that this concurrence of circumstances was purely *accidental*. How then if we point you to six other cases occurring nearly at the same time, under similar circumstances, and at the same wharves, in the space of seven days? How if we carry you to the Exchange wharf and show you 7 cases in the space of 12 days, and in an area of 200 yards, in the very centre of the West India trade. How if we adduce the occurrences at the Commercial wharves, and present you a new case on board the ship *Burmah*, and several in her neighborhood, not-

* We have just been informed by a Captain of a vessel, a respectable Gentleman, that he was told by some of the crew, that the Captain visited one of the Havana vessels in his boat, remained some time on board, and received a present of fruit.

PLAN OF THE WHARVES OF CHARLESTON, S. C.



REFERENCES.

- N^o 1 Jacobs Boarding House
- 2 Baptists Boarding House
- 3 M^r Ladsons Counting House
- 4 M^r Collins Counting House
- 5 D^r Schmidt's Patient
- 6 Hans Stellman
- 7 M^r LeCarons Counting House
- 8 Henderson Adger & Stevens

Scale of Feet.

250

500

1000

From L. & S. 703 Meeting St. C. 30

withstanding the purification and cleansing which she underwent? Can all this depend upon an accidental coincidence of circumstances? Then let us go back again to the Central and Fitzsimon's wharves, and see a case taken from the brig Caspian, which never hauled to the shore, and accompany him into Market street to his boarding house, south side. Here we will find Beltzung living 5 or 6 doors off, same side, attacked in 9 days after. Then let us refer to the letter of Dr. Mackey, the then Physician of the Poor House, in which he tells us "I have yet a distinct recollection that during the earlier period of the epidemic a majority of its victims were derived from *these Boarding Houses.*" If however, this be not sufficient, we offer you the cases of Mr. Le Caron, Dr. Collins, the clerks of Messrs. Stevens, Henderson and Adger, of Hans Stellman, and Dr. Schmidt's patient in connexion with the Exchange wharf, and finally the case of Mr. Ladson's son at the Southern wharf.

Can any thing be more palpably demonstrated than this? Is it not so plain that he who runs, may read? Call it infection, contagion, or what you please, the facts are no less evident. We do not think then, that we are arrogating too much, when we say that we have established the transmissibility of Yellow Fever beyond the shadow of a doubt, and proved that it was imported into Charleston during the year 1839, from Havana and Matanzas.

The Yellow Fever made its appearance also in Augusta during 1839. We have conversed with several intelligent Gentlemen, who believe most firmly that the disease was transmitted to that place from Charleston.

It is true that they admit there were some cases of fever which occurred early in the season, but it was not until several cases had been transported there from this place, that it began to assume that particular form.—We have been politely favored by the committee of the Medical Society of Georgia, with a copy of their Report on the origin and causes of the late Epidemic in Augusta, Georgia. Whilst we return our thanks to those gentlemen for their courtesy, we must beg, respectfully, to express our dissent from their conclusions. How happens it, that the trash wharf, and the low state of the river have never before given rise to the disease—for until this season Augusta has been exempted from its attacks. As is the case on all occasions of this kind, we are informed, that a majority of the Physicians of Augusta denied until a late period, the existence of Yellow Fever in that city.

We have endeavored to collect some facts on the subject of this Augusta fever, but have only succeeded in procuring one letter. It is the following, from Dr. W. E. Johnson of that city:

Augusta, January 15, 1840.

Dr. B. B. Strobel,

MY DEAR SIR,

Your favor of the 12th inst. came to hand by a due course of mail. The subject matter involved, viz: (as you so aptly express it) the transmissibility of the so called Yellow Fever, is one of deep and lasting moment, not only to ourselves, as medical men, but also as citizens, sharing in common with the rest of mankind the evils to which flesh is heir. It is a subject, I repeat, of such vital importance not only to individuals, but also to the well being, nay even the existence of

communities, that conclusions should not too hastily be arrived at. The facts should be carefully studied, the arguments pro and con should be thoroughly examined. Not a stone should be left unturned—not an opportunity should be neglected to dispel the deeper than cimmerian darkness that has so long enveloped this matter.—“*Audi alteram partem*” is a maxim scrupulously to be attended to by every one in the search after truth—and by none should it be regarded more intuitively, than by those in whose hands are placed the lives of their fellow man. Deeply imbued with such principles, I regret that I cannot express my views as confirmed on this subject. The testimony adduced has not been clear, or strong enough to warrant me in arriving at conclusions positive and fixed. The discrepancies are too great—the field for observation too extensive—the “ends aimed at” involve thousands of lives, and millions of property. “Too much time” says the celebrated Wilson Philip, “cannot be spent in the investigation of febrile diseases—their origin, character, and the treatment proper for them—nor will any man find a little sufficient for obtaining an accurate knowledge of them.” While, therefore, expressing my belief that much and very plausible testimony can be adduced in the advocacy of the transmissibility from one place to another, of all diseases which incidentally prevail as Epidemics, and of the spread in localities favorable to their adoption, by a certain peculiar, and unknown state of the atmosphere—and in the absence of this vitiated condition of the air its introduction produces no impression—still the great mass of evidence hitherto adduced by medical men is in opposition to this view of the matter, and until I have more fully

and carefully investigated the subject, I must yield to the tenets of the majority, although I doubt not that time, not very far distant, will show that the views of the minority on this question are in the ascendant.

Wishing you every success in your truly laudable undertaking, I subscribe myself,

With regard and esteem,

Yours sincerely,

W. EWING JOHNSTON, M. D.

We take pleasure in presenting to the public the following interesting letter from Dr. Robert Lebby, Acting Surgeon of the Post in this harbor. We have determined to offer our adversaries all that we have collected, whether it makes for, or against us; we have endeavored in all things to deal impartially, and to hide nothing likely to throw light upon our subject—we conceal nothing—we aim at nothing *but truth*.

FORT MOULTRIE, January 16, 1840.

Dear Sir,

In reply to your letter of the 6th inst. requesting any information in my possession relative to the fever which has prevailed in the City of Charleston and its vicinity for several seasons past, I have to inform you, that the first cases of Yellow Fever, came under my notice in August 1827, at Fort Johnson. Three men belonging to a company of U. S. Artillery, stationed at that post, remained a night in the City during the existence of Yellow or Stranger's Fever. On the 9th day after, they were attacked with the disease, within a few hours of each other. There was no doubt of the nature of the disease, it being a fever of but one paroxysm, and yielded on the 6th day, favorably. These individuals were strangers to the climate, and had never been here

before. They were natives of Germany, Ireland and Massachusetts. They were not removed from their quarters; (the Hospital at the time being out of repair) and during the period of their sickness, ten or twelve men slept in the same room with them, who were alike strangers to the climate; yet there were no other cases of disease in the garrison. The next occurrence of the disease was in 1831, at Castle Pinckney. One of the Irish laborers died in the city of supposed Yellow Fever. This was an intemperate man. Several other cases of fever occurred afterwards, among the laborers, who were brought to the Hospital at Fort Johnson; but according to my humble opinion, they proved to be Bilious Remittent fever, were treated as such, and recovered.

In 1832, the disease appeared in the City of Charleston, and from two or three of the first cases being traced to the Irish laborers at the Castle, it was supposed to have originated there, and if I recollect aright, I think a deputation of the Medical members of the Board of Health were sent over to ascertain, if possible, the cause or causes of its origin. It was ascribed by those gentlemen to a quantity of shells taken from the adjacent oyster banks for the purpose of filling up the parade ground. From this opinion, however, coming as it did from so highly respectable a source, and from gentlemen of known scientific attainments, I differed at the time, with due deference to their experience. And in obedience to an order of the commanding officer of the Engineer Department, I examined the premises, and was of opinion, that the causes of the fever, were from the opening of two Privies in the North Wall, which had been bricked up for a number

of years—their contents in a decomposed state taken out in the month of August, and exposed to the action of the sun on the bank near by—together with the exposure of the lower story of the Quarters to the action of the atmosphere—it being necessary to rip up the floors which had sunk down to the surface of the ground, and had remained in that state for some years. It will also be recollected that this Fort had been used for some time previous as a Lazaretto.—The exposure of a surface which had been so long protected from the action of the sun's rays—is it not more than probable that when thus exposed, the exhalations therefrom would engender disease of some kind? In this instance likewise, every one of the cases brought to Fort Johnson was Bilious Remittent fever. Among those attacked were Lieut. now Capt. Brewerton, the master carpenter, two masons and several black laborers. Yellow Fever prevailed in Charleston that season I think to some extent. The venerable Dr. Phillip G. Prioleau attended Capt. Brewerton with me as a consulting Physician, who may perhaps recollect the case.

The next occurrence of Fever under my notice, and which was confirmed Yellow Fever, was in September 1838. The mate of one of the Lighters, an Englishman by birth, about 18 years of age, who had been in the harbor about 7 or 8 months. He slept one night in the City in September—on the 4th day he sickened, and although he was among children at Sullivan's Island, and others who were liable to contract the disease,—no other instance of it occurred in the family.—He recovered.

The next occurrence of the Fever was on the 16th June. Capt. R. of the U. S. Lighter, Valiant, lying in

the Cove of Sullivan's Island, was taken on this date. He reported at the Hospital, Fort Johnson, on June. This man had not been in the city, from all the information I could obtain, for twelve days, at least, previous to his attack. From the history he gave of himself and the symptoms exhibited, I was of opinion that he was laboring under Intermittent fever, resembling that form commonly known as Country Fever. In the evening there was a distinct intermission—the fever going off with copious perspiration. Between this period and the evening of the 21st, there were two distinct paroxysms. On the morning of the 22d it assumed the continued form—on the 23d he commenced ejecting black vomit, bleeding from his blisters, mouth, and rectum, and on the 24th he died.

The next case admitted was on the 20th June, from the lighter Sea Flower, lying at the wharf at Fort Johnson. This vessel had been engaged for some time in transporting materials from this post to Fort Moultrie—the Captain had not been to the city for many weeks. His symptoms were exactly like the first at its commencement—the paroxysms distinct, assuming the double tertian form, and going off in profuse perspiration, occasioning great prostration—it yielded to a very energetic treatment—although there was great gastric inflammation, and some hemorrhage from the bowels. He was a very temperate, regular man in his habits, while the former was the reverse.

The 3d case was admitted on the 22d June. This individual was sent on board the Valiant as soon as her Captain was taken sick, to relieve him. He was a northerner by birth, in high health, and a perfectly temperate man. This case was well marked Yellow

Fever from its commencement—it yielded on the night of the 5th day, and he recovered. I would here remark that this man had been frequently to and from the city, transporting stone to the Breakwater. On the next day a third case from the Valiant was brought to the Hospital—this was a black man, with bilious congestive fever, and on that evening another black, with the same fever, from the lighter Fame from Charleston. Immediately after the admission of the 3d case from the Valiant, I addressed a note to Capt. Bowman, the commanding officer, expressing my suspicion that there were local causes about the Valiant, calculated to generate disease, and suggesting to him the propriety of removing her crew (which were northern men) immediately, and to have the vessel ventilated and well cleansed. Capt. Harvey of Charleston, was placed in command of her who stated to me that he found a large quantity of decomposed Cabbages and potatoes, and other vegetable matter in a putrid state in her lockers, and a quantity of dirt and filth between her ceiling. Several of the negroes engaged in cleaning her were taken sick with intermittent and congestive fever. She was scuttled and allowed to remain full of water for some days. After this she was pumped out, and continued perfectly healthy the rest of the season.

The next case occurred at Fort Moultrie; an Irishman who had not been in the city from May—this occurred the latter part of August. On the 18th September, the assistant of Capt. Bowman was taken with Yellow Fever. He had been in the city on the 10th and 17th—he recovered. On the 20th Capt. Bowman was taken with bilious inflammatory fever. He had

not been from Sullivan's Island during the season.—Several other cases occurred among the families residing back of the Fort, while they assumed a continued form of fever, and in many of their symptoms were nearly allied to Yellow Fever, it was very doubtful whether they could be properly placed under the head of genuine Typhus Icterodes.—Many cases of inflammatory or broken bone fever, so called, occurred in October among the workmen men.

In reply to the latter part of your letter, "whether they (the Lighters) did not communicate with vessels from Havanna or Matanzas, lying at the quarantine ground?" I have taken considerable trouble to ascertain this fact, from every source that a correct knowledge of facts could be derived, and I have no hesitation in asserting that with one exception, there never was any communication with the quarantine vessels and the Government Lighters, or with any one in the service of the United States. The exception alluded to, was the Capt. of the Steamer Sumpter—on one occasion he sent his boat on board the John C. Calhoun, some days after she had been boarded by Dr. Simons. No ill effects resulted from it, for neither of the negroes that were in the boat were sick afterwards. The Steam Boat continued to perform her regular duties between the city and Fort throughout the season, and though her Engineer and Mate were entire strangers, there were no cases of fever on board.

I have thus endeavored to place at your disposal a plain statement of facts, as they occurred, under my own observation, almost from the commencement of my professional career. I have most carefully excluded any opinion of my own upon the contagiousness of

Yellow Fever, or that fever which has prevailed in the City of Charleston for the last two seasons—but in conclusion, pardon me for entertaining the idea, and at the same time expressing it, that there were sufficient causes, both local and general, to have produced an Epidemic of some kind. It was to be expected from the peculiarity of the season of 1838, as well as the extreme hot sun by day, in the latter part of May and beginning of June, as the cold northerly winds, that blew by night, at the commencement of the summer of 1839.

If these sheets can be of any service to you, please make what use you deem proper of them.

I remain, dear sir,

Respectfully your ob't serv't.

ROBERT LEBBY.

DR. B. B. STROBEL, }
Charleston. }

In reply to certain queries which we addressed him, in reference to the localities and health of Cannonsborough, we have received from the Rev' John Bachman a very interesting account of that vicinity, which it affords us great pleasure to present to the public.

CANNONSBOROUGH, 8th March, 1840.

Dear Sir,

In answer to your enquiries in regard to the location, and health of this neighborhood, I offer you the following statement as the result of my observations:

Cannonsboro' is situated on a neck of land, the southern point of which reaches a little below Boundary street, and it is united to the North western part of the City by a cause way and bridge. The street leading

to the lower ferry on Ashley River, commonly known as the Bridge Ferry, is I believe regarded as its northern boundary. On the East and West it is surrounded by salt water, which rises according to the state of the tides, twice in 24 hours, from one, to 4 or 5 feet, and is retained for several hours by the mill dam below, until the water in the river has fallen sufficiently, to enable the mills to work. Except in very short tides, the ponds are very seldom dry beyond a couple of hours. Formerly, the body of land on both sides of Cannonsborough covered with salt water amounted to, about three or four hundred acres. This space has however, been considerably reduced, by the constant filling up of water lots on both sides. To the east the lots have been filled principally with mud, dug from the pond—in a few instances, by saw dust and pine wood, and to the west a large space has been filled altogether with Rice chaff. On many of these lots substantial wooden buildings have been erected. On the upper end of the eastern branch of the mill pond, a number of Butcher pens have existed for many years, the blood and offals from which caused an unpleasant effluvium in that neighborhood during the warm days. This evil is now in some measure remedied by the greater attention given to burying these offals.

The pond is moreover the receptacle of many offensive substances from the adjoining lots. As yet I have not perceived that the neighborhood has grown less healthy in consequence of our increased population, or of the encroachments on the mill pond by the filling up of lots. I think it probable, however, that when the pond shall have been completely filled up, we may calculate that this vicinity will be more near-

ly assimilated to the climate of the city, and partake in common of the diseases prevailing there.

During a residence of 24 years in Cannonsboro', I have been occasionally absent for a month at a time during the prevalence of Stranger's Fever in the City, but with the exception of the summer of 1838, I had an opportunity of knowing nearly all the cases of fever occurring in this neighborhood, and visited most of the persons affected, and thus had an opportunity of ascertaining whether the disease *originated* in this locality. As far as I could ascertain the few individuals who suffered under the disease had visited the city during its prevalence. On one occasion a boarding house for strangers from the city, was opened in this vicinity. On several others, our friends from town subject to the disease, removed to this neighborhood during the sickly season, and in no instance did they imbibe the disease. Cannonsboro' has from time to time suffered with scarlet fever in common with the city; several cases of Cholera also occurred here, but as yet it does not appear that any cases of country fever, fever and ague, or stranger's fever have originated in this neighborhood.

Yours Respectfully,

JOHN BACHMAN.

DR. B. B. STROBEL.

We have also received the following letter from a highly respectable gentleman of Beaufort, where it would seem that as at Saint Augustine in 1821, during an unhealthy season, the first case of Yellow Fever, so acknowledged to be, was brought from Charleston, and that the disease became general; this occurred in

the year 1817, a period in the history of the Yellow Fever of our city, not easily forgotten.

Letter of Mr. H. M. Stuart.

BEAUFORT, 21st February, 1840.

Dr. B. B. Strobel,

DEAR SIR,

I have postponed answering your letter, in hopes of obtaining some facts relative to the Fever which prevailed here in 1817, which might be useful to you. As it is, I am afraid I can communicate nothing which can be of any service. I was but a boy in 1817, & must depend upon the recollection of others. I have always understood that it was quite sickly at Beaufort as early as July, and that the fever which prevailed was of a malignant character—but the *first decided* case of Yellow Fever which occurred was a case *introduced* from Charleston. The nurse of this individual (a black woman) died shortly after, it was said of Yellow Fever. Whether her case was the next one or not, it would be impossible now to ascertain. This statement has been confirmed by two individuals with whom I have conversed since the reception of your letter.

Should any fact come to my knowledge which I think may be interesting to you, I will with pleasure communicate it.

Yours Respectfully,

H. M. STUART.

Now although, the letters of the Reverend John Bachman, and Dr. Lebbey prove, that the Yellow Fever has never been propagated in Canonsboro', nor on Sullivan's Island within their experience, yet, their evidence so far from operating against our view of the

matter, is calculated to confirm it. We have repeatedly said, that the disease, if introduced into a healthy atmosphere would not extend to others. Canonsboro' is known to be exempt from all and every endemic form of fever, and Sullivan's Island is a mere sand bank free from ponds, marshes, and vegetation, constantly exposed to the refreshing breezes of the Sea, and resorted to by strangers and persons of leisure, as a delightful retreat from the noise and bustle of the city.— Now according to the reasoning of our adversaries it is impossible that Yellow Fever can be generated there from local causes. Yet instances are on record of its having prevailed there epidemically in 1817, and if we mistake not a number of cases occurred in 1838, '39.* Be this as it may, we cannot be mistaken as to the occurrences of 1817, for we distinctly recollect that an attempt was then made to attribute the fever to some local cause, such as a gutter, or a small pond. The Yellow Fever had not prevailed in Charleston from the year 1807 up to this time, a period of 10 years. Upon the revival of commerce however at the close of the war of 1812, a sudden irruption of Yellow Fever took place, at a time when the city was filled with strangers. Sullivan's Island was then considered as a safe retreat from the fever, and a very large number of persons went there in hopes to avoid it—many of them were in indigent circumstances—and of course crowded together in narrow, confined apartments. Under these circumstances the fever was *transmitted* from

* We are permitted to cite one case, that of a young lady who came from the country, and proceeded to Sullivan's Island before the fever prevailed in Charleston. She took the fever and was very ill.

Charleston to that place, and many persons died of it. Among the victims of that season we may mention the death of an individual whose loss created an immense sensation at the time, the Right Rev'd Bishop Dehon of the Episcopal Church, a gentleman whose mild and amiable virtues, and evangelical character, render the language of the poet peculiarly applicable to him:

"None knew thee, but to love,
None named thee, but to praise."

Many persons arriving in our harbor, and learning the condition of the city, proceeded from the vessels immediately to the island, where they sickened and died.

Although but a boy at the time, the occurrences of the season made an impression never to be erased.— We well remember the burning of tar, the sprinkling of lime, and various other means adopted in the vain hope of arresting the scourge, the incessant pouring of the rain, whilst the ceaseless rumbling of the Hearse gave indication that some other victim was journeying to that "undiscovered country, from whose bourne no traveller returns." Then too, was exposed the delusion of trusting to what is commonly called acclimatization. For young persons, 20 years of age, born, bred and brought up in the place fell victims to the disease.* And this leads us to believe, that if 20 years

* In passing through the French Protestant Church yard, we discovered the two following inscriptions on two tombs, side by side of each other.

"Sacred to the memory of Isaac Mazyck, 4th son of William and Elizabeth, who died on the 13th of September, 1817, of a fatal fever then raging in this city, aged 20 years 2 months.

"Sacred to the memory of Paul St. Julien Mazyck, 7th and youngest son of William and Elizabeth, who died on the 22d September, 1817, of a fatal fever then raging in this city, aged 14 years."

do not acclimatize, a whole life will not. Did time permit we might enter into a number of interesting details on this subject, calculated to show, that nothing affords an exemption from an attack of Yellow Fever, but the fact of having had the disease under some of its modified forms. And in this respect it presents a strong analogy with other contagious febrile disorders and to use the expression of Dr. Dickson, "an equally strong contrast with ordinary endemics." We will go one step further, and express our opinion, that could such a thing occur as that Yellow Fever should not exist in Charleston for thirty years, and then an irruption should take place, that nearly every person in the community under that age, would be liable to an attack, as was the case at Barcelona in Spain. But having once had the disease they become exempt from future liability.

In proof of this we may be permitted to adduce the following extract :

"A commission was constituted at the conclusion of the Gibraltar Epidemic, composed of 13 Physicians, of whom Mr. Louis was appointed Pres't, M. Trousseau, Vice President and Mr. Barry secretary. The medical men of Gibraltar were invited to come before them; most of them had seen the Yellow Fever in Spain only, but some had witnessed different epidemics in Europe and America. The number of patients seen and treated by them all, amounted to 27,000. In this way but one well authenticated instance of second attack was furnished."

"From the facts already given, the reader can scarcely have a doubt of the preservative influence of a first attack of Yellow Fever. But it may be well to add to

them the two following, as very remarkable examples of this truth. The first was given to the commission by Mr. Aniel. This gentleman visited professionally two young men of the name of Rey, during the Gibraltar epidemic of 1810. These same persons, in 1821, were on board a vessel anchored in Barcelona Bay during the Yellow Fever epidemic, which prevailed there. Several passengers on board the same vessel were ill—the whole ship's company, 19 in number, died, but the two Reys continued to enjoy good health. The second fact was reported by Mr. Broadfoot, and relates to civil and military domestics employed in the care of the sick, during the last epidemic. The military domestics, one hundred and ninety in number, had never had the Yellow Fever in any anterior epidemic. The others, 61 in number, Spaniards, or Portuguese, with two exceptions, had already been its subjects.—The two last, and forty of the military domestics, had the disease at different periods of the epidemic—all who had previously had it, escaped.*

We know of no other than contagious febrile disorders, that offer this peculiarity. The endemics of our low country seem to acquire a peculiar predilection for those, who have previously suffered from them. We have treated, for instance, cases of Intermittent fever, which bid defiance to every remedial agent, so long as the patient continued to occupy the particular location in which the disease was contracted. Who that is acquainted, with this, the sad peculiarity of our climate, would venture after of the first of June, and from thence until a frost, to sleep on one of our Rice plantations, unless he was prepared to take the conse-

* Louis on Yellow Fever of Gibraltar—page 319.

quences in an attack of what we term, Country Fever, and this without reference to his having had it before? We are acquainted with a Gentleman who regardless of consequences, persevered in remaining on his plantation during the summer, and contracted the fever for seven years consecutively. The disease having handled him rather roughly the last time, he finally abandoned the experiment, which to say the least of it, was a rash one. The Yellow Fever then differs in this character from our endemics, and hence we may infer, is produced by a different cause. It is to be regretted that much confusion has been thrown upon the origin of the disease in consequence of the want of accuracy in describing, and the blunders and mistakes which have been made, in calling it by such a variety of names; as for instance, *Petichial Typhus*, *High Bilious*, *Putrid Malignant*, etc. etc. And some of our profession either through ignorance, or design, seem to lend themselves to these impositions. We may mention an instance of one, who has been endowed by nature with more *whiskers*, than brains, and who was asked after the fever had been prevalent for more than a month, if he had seen any cases of Yellow Fever? and who replied—No, I have seen some of violent fevers, which some Doctors, no doubt would *call* Yellow Fever—but I consider them only *high bilious*. But let the existence of the disease be once fairly established and every thing, even a common cold, is Yellow Fever for such, and the public ear is astounded with their wonderful enactments. Such men are the bane of the community, and the curse of our profession. They stand between the enquirer after truth, and the sources of light, and obstruct its progress.

It has been urged against us by our adversaries, that because there are some cases clearly made out in which the Yellow has not been propagated by contagion, that therefore, it never can be. Such a conclusion is not only unphilosophical, but it is contrary to the experience of all those, who have carefully watched the phenomena of contagious febrile diseases. A certain condition of things is necessary for their extension, which condition consists in the predisposition of the individual, and a certain state of the atmosphere. Under peculiar circumstances, diseases not specifically contagious have been known to propagate themselves by infection or contagion; as familiar examples of this we may instance, Typhus, Hospital, and Jail fevers, and Dysentery. In proof of this opinion, we might quote numerous authorities. Let us however content ourselves, by offering some examples taken from our own observation.

Melanee, a seaman from the French Brig *Victorine*, was brought into the Marine Hospital on the 27th November, and placed in the ward with several other patients. On the second day, eruption began to manifest itself, which proved to be Varioloid. He was immediately isolated, and notice given to the Port Physician, by whom he was removed to the Lazaretto—no other cases occurred.

Erasmus D. Hontoon, also came in with Varioloid from the Brig *Perry*, on the 7th of January, 1839; was also transferred to the Port Physician on the 8th; no other case occurred.

Wm. Jenz, also came in with Small Pox on the 26th April, and was transferred in the same manner, on the same day, and no other case occurred. At the time of

Melancee's admission, there were 34 patients in the Hospital, besides nurses and the family of the Steward. At the time of Hontoon's admission, there were 41 patients, and of Jenz 30 patients, making in all upwards of 100 persons in the same building with three patients laboring under diseases avowedly contagious, and those diseases were not propagated. A runaway negro was confined in the Work House, and while there, we are informed, was attacked with genuine confluent Small Pox. This case could not be traced to any legitimate origin, but seemed to be *sporadic*. The patient as we understand, was turned adrift upon the community during the period of desquamation, and no other case occurred, with the exception of one of the children of the Physician, who attended the negro in the Work House, which proved to be a mild case of varioloid.

A vessel arrived here from Boston some time in the month of January last, with a case of Small Pox on board. The patient was landed at the Lazaretto, and after a quarantine of three days, the vessel with the passengers and crew were permitted to come up to town. One seaman, and three passengers, were attacked in the city, with varioloid. The passengers boarded in three different houses, where a number of other persons also lodged, and not another case occurred.*

* We are enabled to confirm this statement, upon the authority of an official document taken from the Charleston Mercury, of January 15th, which reads as follows:

"Observing it said by a writer in yesterday's Mercury, that the Small Pox had been introduced into our city from Boston, I beg leave to state the *facts*; shewing that he is *mistaken*; if he supposes that there has been any *neglect in enforcing the quarantine*.

The only vessel which has arrived from Boston this winter, with

Here we have presented 8 cases of Varioloid and Small Pox, occurring in the city of Charleston, in the space of one year, & they were not propagated. Now, were we to contend from this, that those diseases were not contagious; we should be accused of either madness or folly. All that we ask then is that the same principles should be applied in reference to Yellow Fever; which although when introduced into certain healthy places, does not extend itself—yet in close, ill ventilated positions, where an unhealthy atmosphere exists, is propagated with astonishing rapidity—Indeed it seems to be a well established fact, demonstrated clearly, that the original sources of fever are derivable from animal and vegetable putrefaction. But it is equally well established, that the exhalations and secretions from the bodies of those sick of fever, are also capable, under certain circumstances of generating fever. On this subject we make the following extract:—"But by far the most potent febrile poison, derived from an *animal origin*, is that formed by the exhalations given off from the living bodies of those who are affected with fever, especially when those exhalations are pent

SMALL POX, *on board*, was stopped at the quarantine, and not suffered to come into this port, until after a *detention* of THREE DAYS. The only person on board sick with *Small Pox*, having been first sent to the Lazaretto in a *convalescent* state.

Since then *four individuals* from the same vessel, one, a *seaman*, and the other three passengers, have been *sent down* to the Lazaretto with the *varioloid*. The *four* had all been *vaccinated*. I have heard no instance of *small pox*, having been communicated from said vessel, *since her arrival*, and if therefore, it be in the city, it must have come from some other cause, than a neglect of proper quarantine precautions."

(Signed)

N. BROWN, Keeper of Lazaretto."

up in a close, and confined apartment. The room of a fever-patient, in a small and heated apartment in London, with no perfusion of fresh air, is perfectly analogous to a stagnant pool in Ethiopia, full of the bodies of dead locusts.—The *poison* generated in *both* cases is the *same*, the difference is merely in the degree of its potency. Nature with her burning sun, her still and pent up wind, her stagnant and teeming marsh, manufactures plague, on a large & fearful scale. Poverty in her hut, covered with her rags, surrounded with her filth, striving with all her might to keep out the pure air, and to increase the heat, imitates nature but too successfully; the process and the product are the same; the only difference is in the magnitude of the result.—Penury and ignorance can thus at any time, and in any place, create a mortal plague; and of this no one has ever doubted. Of the power of the living body, even when in sound health, much more when in disease, and above all when *that disease*, is FEVER, to produce a poison capable of generating *fever*, no one disputes, and the fact has never been called in question. Thus far the agreement among all medical men, of all sects and all ages, is perfect.”*

We proceed next to notice some of the local causes, to which the origin of the Yellow Fever has been attributed. These it must be remembered, are invariably found in connexion with the Shipping, or at least, in those parts of our city most frequented by seamen. We are informed by Dr. V. Le Seigneur a venerable and very respectable Physician, who has been practising for fifty years in our city, that he has never

* Penny Cyclopaedia, Vol. 10, page 253.

known the disease to originate, except between the Governor's Bridge, (site of the present Fish Market) and Elliot street.

This seems to us to be a remarkable fact—remarkable, because, there are no local causes in connexion with the wharves, which do not exist in other parts of the city, and yet Yellow Fever has never made its appearance, except in that vicinity. If this assertion be doubted, let us proceed to the West end of Broad street and survey the acres of new made land, formed from the offals of the city, collected and deposited there by the scavenger carts,—or go to Boundary street, and inspect the superficial drain extending from Meeting street, to Gadsden's wharf. Here we will find a receptacle for all the filth of the neighborhood, where, in consequence of the descent not being sufficiently great, an accumulation of animal and vegetable putrefaction has taken place, constituting a perfect slough. On the North side of Boundary street,* we find congregated together in close contact, a parcel of miserable dilapidated cottages, inhabited principally by negroes, noted for their want of cleanliness, and all police neglected. On our way down Boundary street to Gadsden's wharf, east of Anson, we behold a large space of ground which is inundated at high tide—many houses erected on piles over the mud, and plenty of animal and vegetable putrefaction, and yet no Yellow Fever originated here. Not because there are no subjects, for there are plenty of children, and an adequate supply

* We recollect "many a time and oft" having "paddled our Canoe" at *high* tides, from Gadsden's wharf nearly to Meeting street. And many a Curlew, Night Heron, Cheweka, and Sand bird have we "bagged" on Saturdays.

of German Grocers. If other local causes are wanted, let us go next into Clark's lot, Bottle Alley, and we will find them *plentiful*, as well as fit subjects for the attacks of Yellow Fever, and yet the disease never originated there. We might absolutely go on until we filled a volume, with such foci for the generation of Yellow fever in our city from local causes, but it would only fatigue the reader and consume paper, which may be devoted to more useful purposes.

But it is contended, that the *Dock mud* possesses some peculiarly poisonous property, and that the stirring of it, is productive of the disease. How then if we go to Cannonsborough, and show you the self same mud, dug from a pond, (which is the receptacle of the offals from Butcher pens, and all kind of offensive materials) made use of, for filling up acres of new made ground adjacent to that pond, and no fever and ague, nor country fever, nor Yellow fever produced.

But it is contended that heat and moisture are the efficient causes, of generating the disease, and that the month of June 1839, was uncommonly hot and wet. We deny the premises, and assert that so far from that having been the case, from the 14th May to the 18th June, there was but one shower of rain, and that took place on the night of the 18th of May. During the month of May, the thermometer never exceeded 86 at 2 P. M. and up to the 10th June never rose above 87 at 2 P. M. So that the hot weather, and rain which took place in the latter part of June, could have exerted no influence, in producing a disease which occurred in the early part of the month.—But say our opponents, we are able to prove by Hewatt, that in 1728, when the Yellow Fever raged, "it was so dry that the beasts

suffered for *want of water*." And thus are they compelled in maintainance of their doctrine, literally, to blow wet and dry, and to plead the excuse of the drunkard, who in warm weather drinks to get cool, and in cold weather to get hot.

Such, however, is not the view entertained of this matter in the West Indies, for Rochoux tells us, that either very dry or rainy seasons are apt to prove healthy, for in the former, the sources of putrefaction are so completely inundated as to prevent exhalations, and in the latter, they are literally evaporated, and a sufficient degree of moisture does not exist to produce decomposition. In Ramsay's History of South Carolina,* it is stated on the authority of Dr. Chalmers, that during 1752, the Mercury often rose above the 90th degree throughout the months of May, June, July and August; and for TWENTY *successive* days, excepting *three* in June and July, the temperature of the *shaded* air, varied between the 90th and 101st division, and some times it must have been 30 degrees warmer in the open sunshine, to which great numbers of people were daily exposed for many hours. Neither was there ever a more *healthy season known*, so long as the weather continued *dry and warm*.

We will not pretend to say that all of these causes combined, might not under particular circumstances, generate Yellow fever, but we do say that they certainly produce a vitiated state of the atmosphere, which renders it a very proper and fitting medium for the propagation of Yellow Fever, under the circumstances we have named; and the invariable commencement of the disease in sailor boarding houses, and among the ship-

* Vol 1, page 67.

ping, seems to indicate with sufficient clearness, the channel through which the introduction takes place.

But let us take a more enlarged view of the subject, and observe the progress of the Yellow Fever during the year 1839, The first we hear of it is in May, at Havanna and Matanzas—next, on the 7th June, we have three imported cases brought to Charleston, where in 7 days, other cases occur on board of healthy vessels, from whence the disease continues to spread among the shipping for more than three weeks, before a single case occurred in the city. The first cases in the city are in connexion with the sources of infection which we have pointed out. It proceeds gradually into the town and passes entirely over it. After an interval of nearly two months, we hear of the disease occurring in Augusta, where it is said, that the first cases were carried on the Rail Road from Charleston—and soon after it makes its appearance in Savannah, and finally in September, we are told of the arrival of the Abel family at Saint Augustine from Charleston, and very soon after, the disease prevails epidemically in that place. Now it seems to us, if the occurrence of the disease depended upon the general condition of the atmosphere, heat, moisture, and local causes, that each of these places being nearly in the same latitude & longitude, must have been exposed to the same exciting causes, and ought to have been simultaneously affected; such however was not the case. They are successively attacked, and it appears to us that the disease can be clearly traced to its original source.

Whilst these events are passing in our section of country, we find occurrences precisely similar, taking place at New Orleans and its vicinity. It is well

known that an almost daily intercourse exists between that place and Havanna and Matanzas. New Orleans being the centre of the great western trade up the Mississippi, seems to us, with other articles of West India produce, to have supplied her customers with Yellow Fever, for the disease following in the wake of commerce, was conveyed up the River as high as Natchez and Vicksburg, not overlooking many small towns and villages on the route. The *Natchez Free Trader* of the 10th of September, reports "eight interments during 48 hours—five of the interments were from the Hospital; four decidedly Yellow Fever—three having originated at the landing, and one from New Orleans."

Dr. A. Follin, a gentleman who has devoted much attention to the subject of Yellow Fever, informs us that the fever appeared at New Orleans 3 or 4 weeks before it did at Natchez. At this latter place it first commenced under the Hill, or near the landing, and then extended up the hill, or into the city. The first cases generally originate with the lower class of people, coming up the River in Steam Boats from New Orleans. At Baton Rouge, 130 miles above New Orleans, they have also had the disease. There is a Garrison at this place, and about 1500 inhabitants. The fever prevailed here in the same manner as at Natchez. At Alexandria on the Red River, one of the tributaries of the Mississippi, about 400 miles above New Orleans, the disease also prevailed. In all these cases, the general impression of the inhabitants seems to be, that the disease does not *originate* with them, but is *imported*. It does not affect old residents, although residents newly arrived are liable to it. The disease does not confine itself to passengers. There is a con-

stant intercourse between New Orleans and Havanna. The ports are distant from each other but three day's sail, and vessels arriving every day.

Between New Orleans and Galveston in Texas, there is also constant intercourse by Steam boats, and at Galveston we also have the Yellow Fever, from whence it is supposed that the disease was carried to Houston. Dr. Ashbel Smith, Ex Surgeon General of the Texian Army, in a very interesting article on this subject which has been published in the American Journal of Medical Sciences, makes the following remark.

“Galveston continued in the enjoyment of its general healthfulness the present season, furnishing but very few cases of severe disease, and these were *mostly contracted* ELSEWHERE, until the latter part of September. About this time a Mr. Tickenor, keeping a retail store on the *Strand*, died rather suddenly, with well defined symptoms, as was reported, of Yellow Fever.”*

At Tampa Bay, in the Southern part of Florida, where some U. S. soldiers are stationed, whose supplies we think are brought from New Orleans, the fever made its appearance this season, we believe for the first time.

Mobile, did not escape, although we have not been able to procure any information respecting the origin of the disease there. That City however, maintains a considerable trade with Havanna, and a daily intercourse with New Orleans.

By this statement, we find the Yellow Fever pre-

* American Journal of the Medical Sciences, p. 500

vailing over an extent of Territory, stretching from the West Indies as far north as the 33d degree of latitude, and extending from the 2d to the 19th degree of West longitude. If the mind can conceive it possible that an “*Epidemic constitution of the atmosphere*” could extend throughout so vast an extent of territory—how shall we explain the fact that, that condition of the air, failed to generate Yellow Fever, in the interior of the country, where many towns and villages exist, which no doubt present all the local causes accounted necessary for the production of it. But such was not the case, we find it commencing at different points, in different sections of this extensive area, each of which seems to have constituted a centre of infection, similar to what we have shown to have existed in Charleston. From these centres the disease slowly but regularly, travels along the *high ways of commerce*, and establishes itself at *every point*, where circumstances favorable to its propagation existed. Thus, in Charleston, we are indebted to Havanna and Matanzas for the disease, whilst we in our turn, have supplied Augusta and St. Augustine, and probably Savannah. New Orleans, the great centre of the western trade, received it also from Havanna, and transmitted it to Alexandria, Bayou Sara, Baton Rouge, Natchez and Vicksburg—Tampa Bay in Florida, and Galveston and Houston in Texas. In what other way can we possibly account, for the *gradual extension* of the disease in so many places, and under circumstances so different. Could we have possibly procured the day, and date of the appearance of the disease in each of these places, together with the circumstances attending its introduction, it would have been a most interesting document. But the policy of

Boards of Health, the Mercantile interests, and the Captains of vessels in their employ, all seem linked together for the purpose of concealing the existence of the disease, until it has made such progress and become so manifest, as to announce itself. But for the position which we occupied as Physician of the Marine Hospital, during the last season, how could we possibly have collected the facts, that we have done in reference to this matter. Placed however, as it were, on an advanced post, we were enabled to catch the first glimpse of the enemy, to track his progress, and indicate his mode of attack. So deeply do we feel interested in the illustration of this matter, that if our time and means permitted, we should not hesitate one moment to visit every place where Yellow Fever has appeared this season. for the purpose of collecting all the facts concerning it, which would be calculated to throw light upon it. It seems to us however, that it is a subject worthy of the notice and attention of governments. Would it not be well to lay out some portion of the funds, so lavishly spent in miscalled improvements, on such an undertaking as this. But alas, for those who happen to be in minorities—whilst error and delusions are propagated gratuitously at the public expense—truth creeps into notice, often, amidst the revilings and denunciations of the rabble for whose benefit it is designed.

We shall present the subject in one more aspect, and then we have done with it.

In a former part of this book, we stated that there seemed to be a sort of coincidence between our Commerce with the West Indies and the occurrence of Yellow Fever. We shall now endeavor to make that

position evident, and indeed, we think it can be shown that, the disease never appeared in our city, until, a free intercourse was opened with the West Indies, and this we shall now endeavor to establish by a reference to history. §

The first settlement of the Colony took place in 1670, at what has been termed Old Town, on the West bank of the Ashley River, near the site of the present Ferry. This location being found unsuitable for the purposes proposed, it was in the year 1680 changed to the position now occupied by our city, then called Oyster Point. The early settlers had many difficulties to contend with, not the least of which arose from the inhospitality of the climate. The labors of agriculture were unsuccessful, as they were at first, improperly directed. "The countries subject to Great Britain in Europe, and the American Continent, were much colder; and her possessions in the West Indies, much more steadily warm. The productions of neither were suitable to this climate, which was a medium between the two. From inattention to these circumstances, the first attempts at agriculture in the province were injudicious."* But for the introduction of negroes, which took place in 1690, and of the cultivation of Rice, by Landgrave Thomas Smith in 1698, it is more than probable that the enterprise would have been abandoned. "In 1724, about six years after the pirates were

§ Some interesting articles were published in the Southern Patriot, soon after the occurrence of the Fever of the last year, by the Editor Mr. J. N. Cardoza, in which he traces very clearly the connexion which seems to subsist between our Commerce, and the occurrence of Yellow Fever.

* Ramsay's History of South Carolina, Vol. 1, page 199.

entirely suppressed, 18,000 barrels of Rice were exported ;”† and it was in the year 1728, that the Yellow Fever is first noticed as appearing in Charleston.

We are aware that Dr. Ramsay dates its first incursion as far back as 1700. But we consider this as a gratuitous assumption, as Hewatt, the author whom he quotes, calls the disease “ *an infectious distemper*,”* and says not one word about Yellow Fever. So also, in regard to the disease which occurred in 1703. He writes of it thus—“*An epidemical disease prevailed at Charleston which swept off a vast number of inhabitants.*” Now we believe that these were nothing more than the ordinary endemics of the climate ; for had yellow fever existed in 1700, the same disease could not have swept off a vast number of inhabitants in 1703, when the accession of strangers in that time must have been small, and when, as we think we have shown, there is a preservative influence in a first attack of the disease ; and our opinion is confirmed by what the same author subsequently states. “During the year 1728, the weather in Carolina was observed to be uncommonly hot, by which the face of the earth was entirely parched, the pools of standing water dried up, and the beasts of the field were reduced to the greatest distress. The same year an *infectious* and *pestilential* distemper broke out in town, commonly called Yellow Fever, and swept off multitudes of the inhabitants, both black and white.”† As Dr. Ramsay himself states that this is the first *direct mention* made of Yellow Fever

* Hewatt’s History of South Carolina, Vol. 1, page 142.

† Ramsay’s History “ “ Vol. 1, “ 205.

† Hewatt’s History “ “ Vol 1, page 316

in the history of Carolina,†—we are disposed to adopt this as the first period of its onset, and consider all that he says in reference to the epidemics which existed prior to that time, as merely conjectural.

The Yellow Fever did not then appear in Charleston until after it had been settled for forty-five years, and subsequent to the opening of trade with the West Indies; for it is stated by Dr. Ramsay, that “two vessels were very early and constantly employed by the proprietors to introduce settlers, and every thing necessary for their support, or the cultivation of the earth. These vessels plied between Charleston, on one side, and Virginia and the British West India Islands, particularly BARBADOES,* and Great Britain on the other. From the West Indies, they imported Rum and Sugar, and in return carried thither Staves and Lumber,”† and we may add after 1724, rice. It appears then that the appearance of Yellow Fever in Charleston, was nearly coincident with the opening of trade between us and the West Indies. Let us proceed further, and still continue to trace this concurrence. From Dr. Ramsay we also learn that in the year 1732‘ the Yellow Fever began to rage in May, and continued until September or October. In the year 1739, it raged nearly as violently as in the year 1732. In 1745, and ’48 it returned, but with less violence. It appeared again in a few cases in 1753, ’55, *but did not*

‡ Ramsay’s History, Vol 1, page 84

* “The first accounts of Yellow Fever which we have, is its occurrence in Barbadoes, in 1647, and from thence it spread in the West India Islands.” Report on the Yellow Fever of Charleston by Thomas Y. Simmons, M. D. 1839, page 6.

† Ramsay’s History, Vol. 1 page 232.

spread. In all these visitations, it was generally supposed that the Yellow Fever was IMPORTED.† We would ask from whence ? It could not have been from Great Britain, nor Virginia ; it must therefore have come from the West Indies.

Let us now refer to Ramsay's History of South Carolina, 1st vol. page 205, and we will find that in the year 1740, the amount of Rice exported was 91,100 barrels. We thus perceive, that up to this time the rise and progress of the disease and of the West India trade were concurrent. But after the year 1748, we have a long interregnum of the disease. In endeavoring to account for this, it must be recollected that in the year 1719, the proprietary Government was exchanged for the Royal. The whole policy of the British Government had been to concentrate the entire commerce of the Colony into their own hands. Laws were passed by the British Parliament confining the trade for the benefit of the protecting parent. Carolinians received protection to trade, a ready market, drawbacks and bounties from the mother country, the effect of all which was to draw the whole produce of Carolina to Great Britain, who furnished the Colony in exchange her manufactures.

‡ This condition of things probably existed from the year 1745, until the commencement of the Revolution, about the year 1774, from which period until the close war in 1783, but little commerce subsisted ; and during the whole of that period no mention occurs of Yellow Fever. In order to strengthen our position, it must be borne in mind, that in the year 1780, the city

† Ramsay's History, Vol. 1, page 84.

of Charleston, surrendered to the British forces, who marched into it probably to the number of from 3 to 4000, and garrisoned it until the close of the war.—These troops came from New York, they remained three summers, that is to say, from May 1780, to December 1783, and notwithstanding the predisposition of their european constitutions, and the exposure to which they were subjected, circumstances which rendered them peculiarly liable, the disease is unheard of among them.

But, says Dr. Ramsay, “in the year 1792, a new era of Yellow Fever commenced”—according to our view of the matter, we should say, that on the revival of trade after the declaration of peace the communications between us and the West Indies were re-established. For it was perhaps about the year 1788, that the great lumber trade, between us and those ports was commenced and prosecuted with great vigor until the year 1807. Hence we find an almost annual occurrence of the Yellow Fever during that period, as for instance in 1792, '94, '95, '96, '97, '99, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807. In 1807, the embargo is laid, and instantly the Yellow Fever ceases, and we hear of it no more for 10 years. The embargo and non-intercourse laws had the effect of closing our ports from the year 1807 until 1812, when the war was declared, and lasted until 1815. Upon the declaration of peace, our commerce again revived, and in 1817, we had a return of Yellow Fever, and from that time to the present, it has occasionally occurred, as in 1819, '24, '27, '28, '32, '38, '39.

Our time and limits will not permit us to enlarge on this subject—we have merely pointed out the facts in

reference to this singular coincidence. The subject is full of interest, and worthy of investigation.

We cannot conclude our labors without offering an apology to the reader for the very hasty manner in which some parts of our book have been prepared.— But such have been our occupations for some time past, that we have been often interrupted, again, and again, by calls of various kinds. In fact, the only time when we have been left to the uninterrupted pursuit of our object has been late at night, after the labors and fatigues of the day, had rendered us more fit for sleep than study. We have had great difficulties to contend with also, for want of access to an extensive library, and have been compelled to pick up books here and there as we could find them. In regard to the execution of the book, we are not aware of the existence of any typographical errors, which the good sense of the reader will not readily detect, with one exception perhaps, at page 211, 8th line from the top, where the words *dry* and *rainy* should change places so as to read correctly.

We have honestly expressed the views and opinions which we entertain, and have to regret that the utterance of those opinions may, perhaps, give umbrage to those whom we would not willingly offend. In matters of public concernment, however, we know neither friendships nor enmities. We have not intentionally misrepresented or distorted a single fact, and shall still hold ourselves open to conviction, if it can be proved that we are in error.

We have not yet done with the subject, but have determined whenever the Yellow Fever makes its appearance in Charleston, to continue our investigations.—

In the mean time, we solicit from Medical Gentlemen in every section of our country, the communication of facts in their possession calculated to illustrate the History of Yellow Fever. It is only by the collection of facts in this way, that we can arrive at truth.

We here conclude our task, whether ill, or well done, it remains for others to determine. We neither court nor shun discussion, and shall be happy to have our labors reviewed, and our positions combatted in an honorable spirit of investigation. We know full well the temerity of a single man attempting to breast the storm of popular fury, or to stem the current of popular opinion. Yet in our free country, however unpalatable it may be to *certain interests*, every man who accounts himself a *freeman*, is entitled to express his opinions without the fear of martyrdom.

When we contemplate how deeply the prosperity of South Carolina is wounded by every recurrence of the Yellow Fever in Charleston, we should arouse ourselves for action, and strain every nerve to release our country from so dire a calamity. Happy, thrice happy he, and worthy of all honor, renown and praise who shall be able to indicate some means of "freeing this groaning *country*" from the dominion of the worst of tyrants. In comparison with such an achievement, all of the great improvements of the day literally, amount to nothing. For of what avail will be your media of internal intercourse, when year after year, your merchants are driven away by this scourge. We have tried the plans of those who contend for the local origin of the disease for more than 100 years ineffectually. Let us make now the experiment suggested by an opposite theory—a rigid and efficient quarantine. It is well

worth the trial; for it has been well said, that where there are two sides to a question, the *one safe*, the *other doubtful*, we should always take the *safe side*.

In order to test this matter fairly and offer as little obstruction as possible to commerce, we would respectfully suggest that some location be selected out of the City, where all vessels from infected ports may proceed on their arrival and land their cargoes. Suppose for instance, that Smith's Wharf was chosen, arrangements could be made to prevent intercourse with the city to a sufficient extent to preclude the introduction of the disease, and even should it be thus introduced, we shall be enabled to establish the position most clearly and conclusively, whether the disease be of foreign or domestic origin.

It must not however, be inferred from what we have said, that we deem it unnecessary to adopt measures for the removal of local causes of disease—on the contrary, we believe that this is a matter of no less importance than an efficient quarantine; for whilst we are guarding against foreign sources of disease, we must scrupulously look to those which are internal, with a view to their removal. And if after having adopted the most rigid system of internal police, and guarded vigilently against the introduction of disease from abroad, we still find that it continues to afflict us, we must submit to our fate with resignation and fortitude, and admit that there is something in our climate which renders the location of Charleston, a fit and appropriate field for the Yellow Fever to exercise its ravages, and all that we can do, is to endeavor to ameliorate the sufferings of those, to whom we can offer no exemption.

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